3.3.1 Number of research papers published per teacher in the Journals notified on UGC CARE list during the last five years

Sr No	Title of Research Paper	Author	Name of Journal / Magazine	Publishing Year	ISSN No.	Is it listed in UGC Care list
1	EXPLORING FEMINIST THEMES IN THE WORKS OF ANITA DESAI, SHASHI DESPANDE AND BHARATI MUKHERJEE	Dr. Neelima Pareek	International Journal of Innovations & Research Analysis (IJIRA)	2024	2583-0295	Peer Reviewed
2	SOCIAL DIMENSIONS IN SELECTED NOVELS OF ARVIND ADIGA: A STUDY	Dr. Neelima Pareek	CHHAVI: NATIONAL JOURNAL OF HIGHER EDUCATION	2024	2319-9679	Peer Reviewed
3	Dynamic Corporate Scenario: Role of 4.0 Leadership Style	Dr. Durga Narayan Sharma	Bloomsbury Publishing India Pvt. Ltd. 978-93-5640-279-9	2023	978-93-5640-279-9	A Peer Reviewed Refereed Journal
4	CORPORATE GOVERNANCE, INVESTMENT RISK AND COMPANY VALUE: RESEARCH AND PRACTICAL EXPERIENCE OF YES BANK	Dr. Jitendra Singh Bidawat	JOURNAL OF THE ASIATIC SOCIETY OF MUMBAI ISSN: 0972-0766	2023	ISSN: 0972-0766	UGC Care
5	PROBLEMS AND CHALLENGES OF TOURISM INDUSTRY IN RAJASTHAN	Dr. Jitendra Singh Bidawat	International Journal for Multidisciplinary Research (IJFMR) ISSN 2582-2160	2023	ISSN 2582-2160	A Peer Reviewed Refereed Journal
6	Exploring the use of an Integrated Financial Management Information System (IFMIS) in the Loacal Government Institutions	Dr Mukesh Kumar Kumawat	World Journal of Management and Economics	2023	1819-8643	NA
7	Use of Cryptocurrency in Modern Business: An Analytical Study	Dr. Anupam Jain & Dr. Vinita Jain	International Journal of Early Childhood Special Education (INT[1]JECSE)	2022	1308-5581	Scopus
8	Role of E-Payment in Cashless Economy and its Impact on Consumer Behavior	Dr. Anupam Jain & Dr. Vinita Jain	Journal of Statistics and Management System	2022	2169-0014	ABDC
9	"Long-Term Financial Benefits of Cross-Listing For	Dr Mukesh Kumar Kumawat	Kanpur Philosophers (UGC-Care List Group-I) 2348-8301	2022	2348-8301	Peer Reviewed
10	"Disparities in Health Facilities: An Inter-District	Dr Mukesh Kumar Kumawat	Shodhsamhita (UGC Care Listed)	2022	2277-7067	Peer Reviewed
11	A Comparative study of marketing strategies of Indian dairy industry and New zealand's dairy industry	Dr. Simmi Choyal	International Journal of Education , ModernManagement, Applied science & Social science	2022	2581-9925	Peer Reviewed
12	Role of Customer Satisfaction in Hotel Industry with Reference to Food Quality and Consumer Loyalty	Dr. Anupam Jain & Dr. Vinita Jain	Wesleyan Journal of Research, Bankura Christian College	2021	0975-1386	UGC Care
13	Customer Relationship Management: Challenges and Opportunities in Banking	Dr. Swapna Shrimali & Dr. Vinita Jain	Ascent International Journal of Research Analysis	2021	2455-5967	No
14	A STUDY ON WORKING CAPITAL MANAGEMENT ON SELECTED DAIRIES IN INDIA	Dr. Ashish Gupta	JOURNAL OF BUSINESS AND MANAGEMENT	2021	2277-8012	Peer Reviewed
15	भारत में सहकारिता का इतिहास: एक अवलोकन सहकारी बैंकों के विशेष संदर्भ में।	Dr. Gayatri Dixit	ASCENT INTERNATIONAL JOURNAL For RESEARCH ANALYSIS ISSN:2455-5967	2021	ISSN:2455-5967	UGC 63514
16	Volatile Behavior of Indian Stock Market: A Study of Nifty and Selected Nifty listed Script from different Sectors.	Dr. Jitendra Singh Bidawat	Shodh Sarita ISSN 23482397	2021	ISSN 23482397	UGC Care
17	The Changing Role of An Accountant Via Adoption of Artificial Inteligence	Dr. Jitendra Singh Bidawat	Kala Sarovar ISSN: 09754520	2021	ISSN: 09754520	UGC Care RNI No.46269/87
18	Volatility: An Analysis of Indian Stock Market	Dr. Jitendra Singh Bidawat	International Journal of Education, Mordern Management, Applied Science & Social Science ISSN 2581-9925	2021	ISSN 2581-9925	A Peer Reviewed Refereed Journal
19	Study of Impact of Organizational Work Culture on Profitability: Public Vs Private Sector Banks	Dr. Jitendra Singh Bidawat	Advanced Research in Commerce, Management & Social Science ISSN 2581-7930	2021	ISSN 2581-7930	A Peer Reviewed Refereed Journal
20	IMPACT OF INDUSTRIAL DEVELOPMENT ON URBAN ENVIRONMENT OF UDAIPUR CITY	Dr. Jyoti Bhatnagar	ASCENT INTERNATIONAL JOURNAL For RESEARCH ANALYSIS ISSN:2455-5967	2021	2455-5967	Peer Reviewed
21	Cloud Computing Adoption And Determining Factors In Different Industries: A Case Study OF Developing Countries.	Dr. Neha Paliwal	Kala Sarovar	2021	ISSN: 0975-4520	UGC Care

22	Effective E-Governance Paradigm through Cloud Environment	Dr. Neha Paliwal	International Journal of Computer Engineering in Research Trends Multidisciplinary	2021	E-ISSN: 2349-7084	Peer Reviewed
23	A study of challenges faced by E-commerce companies in India due to COVID-19	Dr. Anupam Jain & Dr. Vinita Jain	Juni Khayat	2020	2278-4632	UGC Care Group I listed Journal
24	ROLE AND IMPORTANCE OF MATERIAL MANAGEMENT AMONG LEADING TRACTOR MANUFACTURING COMPANY IN INDIA	Dr. Ashish Gupta	Juni Khayat	2020	2278-4632	UGC Care
25	Social Media Platforms And Online Purchases: Vivid Perspectives and the Extent of their influence	Dr. Jitendra Singh Bidawat	International journal of Mechanical and production Engineering Research and Development ISSN 22496890	2020	ISSN 22496890	Scopus
26	Liquidity Management Analysis of FMCG Industry in India: Acomparative Study	Dr. Jitendra Singh Bidawat	International Journal of Scientific & Engineering Resarch, California, USA	2020	ISSN 2229-5518	A Peer Reviewed Refereed Journal
27	Cloud based E-Government Model: Analysis and Challenges	Dr. Neha Paliwal	International Journal of Management (IJM)	2020	0976-6502	Scopus
28	E-Governance Phased Security Model	Dr. Neha Paliwal	International Journal of Management (IJM)	2020	0976-6502	Scopus
29	E-Governance Paradigm with Cloud Environment	Dr. Neha Paliwal	Suresh Gyan Vihar E-Journal	2020	2395-0196	Peer Reviewed
30	E-Governance: Helping in times of Covid-19 Lockdown	Dr. Neha Paliwal	Suresh Gyan Vihar E-Journal	2020	2395-0196	Peer Reviewed
31	Impact Analysis of Digital Marketing on Dental Health Care Practices in Jaipur, Rajasthan: A vis a vis Study	Dr. Vaishali Purohit	International Journal of Research in Commerce,IT,Engineering and Social Sceiences(IJCIESS)	2020	2349-7793	UGC Care
32	Impact of Novel Digital Marketing Strategies on Consumer Purchase Behaviour	Dr. Vaishali Purohit	International Journal of Business Economics and Management Research	2020	2229-4848	Peer Reviewed
33	E-Governance Phased Security Model	Dr. Vani Jain , Dr Devesh Bandil	(International Journal of Management (IJM)	2020	ISSN Print:0976-6502 ISSN Online:0976-6510	UGC Care
34	Cloud Based E-Government Model: Analysis And Challenges	Dr. Vani Jain , Dr Devesh Bandil	(International Journal of Management (IJM)	2020	ISSN Print:0976-6502 ISSN Online:0976-6510	Scopus
35	Comparative Analysis of E-Governance Models	Dr. Vani Jain , Dr Devesh Bandil	IJFRCSCE Journal ,Volume-5 , Issue 5, May 2019	2020	ISSN: 2454-4248	UGC Care
36	PRAGMATIC STUDY OF INTANGIBLE ASSETS VALUATION IN FINANCIAL ANALYSIS	Dr. Ashish Gupta	INTERNATIONAL JOURNAL OF RESEARCH IN ECONOMICS AND SOCIAL SCIENCES	2019	2249-7382	Peer Reviewed
37	A STUDY ON APPLICATION OF REMOTE SENSING TECHNIQUES WITH REFERENE TO UDAIPUR CITY	Dr. Jyoti Bhatnagar	ASCENT INTERNATIONAL JOURNAL For RESEARCH ANALYSIS ISSN:2455-5967	2019	2455-5967	Peer Reviewed
38	" Legal Aspects of Corporate Goverance and Comparative Analysis of Accounting Traetment under Companies Act 1956 and 2013"	Dr. Poonam Somani	International Journal in Management and Social Science 2321-1784	2019	2321-1784	Peer Reviewed
39	SOCIAL MEDIA AND YOUTHSUBCULTURE: A SOCIOLOGICAL STUDY	PRAKRITI JAIN	THE IIS UNIVERSITY JOURNAL OF SOCIAL SCIENCES	2019	2319-2593	UGC Care
40	Economic Analysis of Impact of Technological Advancements of Indian Dairy Industry	Dr. Simmi Choyal	Journal of Emerging Technologies and Innovative Research (JETIR)	2019	2349-5162	NA
41	The March Towards A Cashless Economy: An Assessment	Dr. Jitendra Singh Bidawat	Journal of Commerce, Economics & Computer Science (JCECS) ISSN: 2395-7069	2018	ISSN: 2395-7069	UGC Care
42	A Pragmatic Impact Analysis of University Grants Commission (UGC) in Development of Higer Education Scenaro in India	Dr. Vaishali Purohit	IJRESS	2018	2249-7382	UGC Care

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ISSN: 2583-0295 Impact Factor: 6.238

INTERNATIONAL JOURNAL OF INNOVATIONS & RESEARCH ANALYSIS (IJIRA)

(An International Quarterly Multidisciplinary Peer Reviewed Refereed Journal)

Volume 04 No. 02 (II) April - June, 2024

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International Journal of Innovations & Research Analysis (IJIRA)
ISSN :2583-0295, Impact Factor: 6.238, Volume 04, No. 02(II), April- June, 2024, pp.07-10

EXPLORING FEMINIST THEMES IN THE WORKS OF ANITA DESAI, SHASHI DESHPANDE, AND BHARATI MUKHERJEE

Dr. Neelima Pareek*

ABSTRACT

The stories of women oppressed by patriarchy needed to be heard so that males might be held accountable for the unfair treatment they endured. The women's resistance to the men's domination was essential. Community, class, and racial boundaries were all maintained by women. Through their writings, they sought to promote feminism. Though Indian women authors portray their female characters as powerful and goal-oriented, the truth is that women could only achieve success within the boundaries set by males. Nonetheless, the feminist authors did their utmost to assert themselves in a patriarchal society. The women had a tough road ahead of them since the culture was deeply entrenched in male-dominated norms, taboos, and beliefs. On top of that, detractors said that colonialism had a very different impact on men and women. Anita Desai, Shashi Desh pande, and Bharati Mukherjee's (three Indian novelists) feminist perspectives are the primary topic of this essay.

Keywords: *Feminist, Community, Racial Boundaries, Patriarchal Society, Indian Women.*

Introduction

Both Shashi Desh pande and Anita Desai belonged to a cohort of female authors who came of age in India before independence. They are prolific authors who, like Nayantra Sehgal and Kamala Markhandaya, were trailblazers in India's literary canon and whose works shed light on the experiences, perspectives, and challenges faced by women. But they also use women's silence as a symbol for the lack of the woman's voice, which was muted or overlooked. She was almost a cultural outcast while she was engaged. Once the Desai and Deshpande surpass expectations on the personality trip, the woman's quieting process comes to a close.

She grows into her own person as she learns about herself and challenges her role in society. The apparent diversion into women's themes is due to the authors' shared fondness for female protagonists who, against societal norms and rigid conventions, strive to find their own unique place in the world and take charge of their own destiny. Finding one's own identity within a larger male-centric framework may often be a really purifying process. The books revolve around that important cleansing knowledge and concentrate on the feminine experience.

This study compares and contrasts the works of three authors—Shashi Desai, Bharti Mukherjee, and Anita Desai—who are similar in some ways and quite different in others. The books written by Anita Desai, who is of mixed German and Indian ancestry, are firmly rooted in India and revolve on the inner lives of the women protagonists.

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Similar to Anita Desai, Shashi Deshpande does aim composition; she maintains a detachment from her works. The protagonists of her stories are strong women who fight for equality in a patriarchal culture. Deshpande, like Desai and Bharti Mukherjee, doesn't want to be called a feminist writer even though most of her works include female protagonists. "Since writing is derived from personal experience, the way I am a woman will undoubtedly surface," she admits, revealing her empathy for sensible sex. No one other than a woman could possibly write my works; they are, in a sense, internally constructed.

The heroine Maya suffers severe psychological harm as a result of her marriage to the much older, socially unacceptable Gautama in Cry, The Peacock. Her overprotective upbringing and preoccupation with her father make her vulnerable, and Gautama's brutal treatment of her senses leads her to finally dispose of him by forcing him off the terrace. After taking care of her family's needs, the protagonist, Nanda Kaul, of Fire on the Mountain, retires to Carignano. "Please, just leave her alone with the pines and cicadas," she said at this point. No one was necessary for her; that was all. She is accompanied by her remarkable granddaughter Raka while she recovers from typhoid. She creates her own imaginary world out of her father's brutality and her mother's unending patience. She is timid and shy, and her grandmother Nanda Kaul is surprised to see that she doesn't ask for anything special. In letting go of the traditional cultural role of an Indian woman, this compels Nanda Kaul to reflect on her previous roles as a caring husband and mother.

Because they are cut off from themselves and society, the protagonists in Anita Desai's stories suffer from severe mental damage. As a result of living in a man-centered world, they realise that they aren't getting the attention or opportunities that society suggests they should have. There have been many changes in the institution of marriage, which is a major concern for many women authors. Sexual relations are no longer seen as taboo, and the traditional view of marriage and love as sacred observances is fading. A woman must adapt to the changing values of her husband, her family, and society at large. This leads to a gradual breakdown of married relationships and the loss of everything that women hold dear. These kinds of weights crush a woman's true identity and destroy her sanity.

Novelists Desai, Deshpande, and Mukherjee all include protagonists who, in their own unique ways, struggle to figure out who they really are. Expounding on the upper-white collar class is what the authors do. In Desai's works, every single connection is really a commercial transaction.

Freeing Female Characters from Societal Boundaries: (focusing on "cry the Peacock" by Anita Desai) There are many doors open to women in modern India, where they may make their voices heard in politics, business, and everyday life. Whatever the situation may be, India is still a patriarchal culture that views women as inferior to males. But despite India's continuous departure from male-commended culture, segregation is still glaringly apparent in rural and urban areas alike, across all socioeconomic levels. Legitimate assurance has little influence, when male-centric conventions dominate, even if women are guaranteed parity by the constitution.

Anita Desai's Novels on Gender and Feminist Awareness

It is impossible for a writer to separate himself from the events of his period. As an indirect critique on the behavioural ethics of that time and place, as well as outside its local circumstances, the socio-cultural-political milieu is sure to discover creative interventions in writings. Feminist representations in literature force readers to reevaluate the relevance and significance of feminism in general and of feminist theory in particular.

Redressing Gender Inequality: Feminist Views from an Indian Perspective

The patriarchal social structure in India causes women to behave aggressively against other women, treat them as inferior, and manipulate them emotionally and physically. The country also has a high rate of female foetal death, rape of children as young as five years old, insufficient medical facilities for mothers to give birth peacefully, and the practice of burning girls as a form of dowry.

Viewed through a social lens, the imaginative figure

Reading Anita Desai's works requires situating them within this social milieu or this era of evolving Indian women's rights. The intricacies of the "have-not" section might be safely disregarded while contemplating the feminist themes presented in her works, since she mostly addresses middle- and upper-class white-collar culture. Reading her works as a whole reveals a shift in the mystical focus on women and their place in society. None of Anita Desai's books seem to have a particular strong suit. Both "Summer?" and the author's continuing work Fasting, Feasting explore sexual orientation from an authentically Indian sociocultural perspective. In her first three books, Desai explores the decline of women as a result of their inability to think critically about their familial situations.

Feminist Features

It is clear that Anita Desai is more interested in the lives of women than in feminism. Women in her books are fighting for control of their own life; as Nanda Kaul's sad ending shows, this may lead to horrific repercussions when the heroine has lived a lie or when the burden of the past becomes too great. Physical, emotional, or mental forms of violence against women often plague female heroines in popular culture.

They need to stop being so subservient if they ever want to feel good about themselves. The language of Deshpande is straightforward, often uses dialectical structures, and is very argumentative. Desai is known for his contemplative, elegant, and solemn writing style. In her work, she explores themes such as hybridity, identity and persona changes, the weight of responsibilities, and how perspectives change as events develop in various parts of the world. The elements of nature play a crucial role in her writing style and shape the personalities of her characters. Fire on the Mountain and Cry, the Peacock both use nature as a symbolic element in their storytelling styles. The storyline and mood of each of Desai's works are enhanced by minute descriptions about the flora, temperature, slope, and sky. As the hero delves into self-reflection or endures pain, it becomes a trusted companion.

Isolation and being Silent

A combination of estrangement and silence haunts the characters created by the two authors. Smothered rage causes psychological alienation; they resent the lack of opportunity and the stifling relationships, yet they are forced to demonstrate their professions as young girls, wives, and parents. When it comes to privileged insights, families carry the weight of their own units:

Transfer of Areas

Desai seems to place a premium on the geographical locality; for example, in Where Shall We Go This Summer, Sita is essentially leaving one location for another when she runs away to Manori, the island from her youth. The domesticity and oppressive nature of Sita's existence motivate her to flee the city she hates. Although men play a minor role in the patriarchal mode of gender inequality (Fasting, Feasting), the story primarily revolves around the female protagonists, who frequently blame younger women or widows for their own inner violence rather than the men. Deshpande also suggests that shifting one's position in space might indicate a shift in perspective. Both Sarita and Jaya are forced to leave their homes in The Dark Holds No Terrors and That Long Silence, respectively. A common thread among women who have been unable to manage their lives is a desire to end it all rather than give in to societal pressures and accept a life over which they had no control.

The Fiction and Writing Style of Anita Desai and Shashi Deshpande

Both Shashi Deshpande and Anita Desai belonged to a literary cohort of women who came of age in India before independence. Along with Nayantara Sehgal and Kamala Markhandaya, these pioneering women writers from India are prolific authors whose works are deeply concerned with women's experiences, struggles, and challenges. On the other hand, they also use the silentness of women as a symbol for the silence of a hushed or unheard voice. She was deeply entangled with a marginalised position inside the cultural framework. As a result of completing the personality mission—in which Desai and Deshpande surpass all expectations—the woman's agitation subsides.

As she grows into her own person, she learns about herself, challenges her position in society, and doubts her role in the spotlight. The focus on women's difficulties is deliberate, and both authors seem to have a soft spot for female protagonists who, despite rigid societal norms, yearn to find their own path to fame and fortune. Many people find that coming to terms with their individuality within a larger male-centric culture is a very cleansing process. The books revolve on the basic cleaning experience and mostly focus on the feminine experience.

Conclusion

Issues pertaining to women's education and their pursuit of autonomy and meaningful participation are addressed in the most recent book. Women who have benefited from training are elaborated upon by Anita Desai. On the other hand, as her books show, women's educational attainment and degrees have not yet empowered them to carve out a place for themselves in the world. This begs the intriguing psychological issue of whether cultural influences are the only constraints on women's breaking point decisions in postcolonial literature. As a result of the women's exploitation of cultural norms and devotion, the enthusiastic equilibrium of the people has been upset. Typical female protagonists in Deshpande's works are either trying to escape or are actively resisting societal expectations placed on them by their conventional family structures. There is frequent communication inside the joint family, yet there are also strict rules that may restrict women's opportunities.

But Shashi Deshpande would Writings by Anita Desai and Bharti Mukherjee capture the bleakness ofis not a depressing depiction of the lives of women. The heroes in her stories find a fulfilment and harmony in one's life. They learn to integrate their many functions into a whole by recognising the value of human connection. Various female characters The characters, particularly the protagonists, in the books written by Shashi Desh pande often face challenges from both their home and society.

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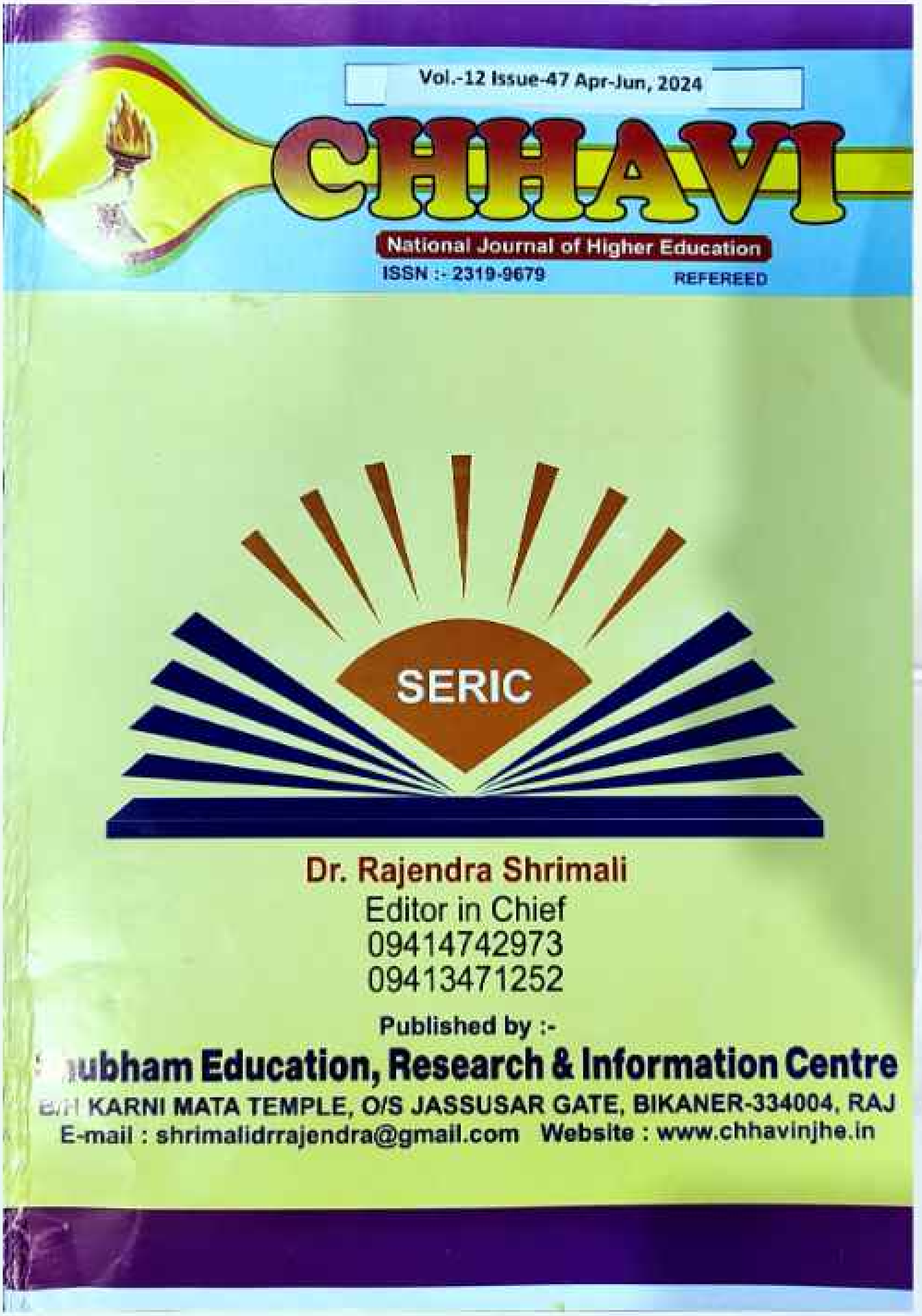

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Social Dimensions in Selected Novels of Aravind Adiga: A Study

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Abstract

Arvind Adiga is a renowned novelist and author of post-modern Indian English literature. He captures the essence of Indian culture, which is recognized for its multifarious facets such as youth culture, counter-culture, cross-culture, and so on. Arvind Adiga has used a variety of characters to depict the actual socio-cultural realities in a few of his works, including Between the Assassinations and The White Tiger. In these studies, the sociocultural elements pertinent to his chosen fiction are examined and presented. Irony and comedy are used throughout the entire body of work to explore socio-cultural tensions and social status. Rich and poor, ruling class and working class, suppressor and suppressed—these groups are very different from one another. Some members of the lower and working classes openly challenge the oppressive rules and restrictions because they are eager to see social change. Known as protest, they frequently fail but occasionally succeed. The novel's protagonist frequently rebels against social norms and taboos, and this topic permeates the entire plot. Popular for his book The White Tiger, which won the Booker Prize, is Arvind Adiga. A collection of short stories called Between the Assassinations and two more novels are among his other works. Arvind Adiga's book The White Tiger is the specific subject of this investigation.

Keywords: socio-cultural, social norms, Indian culture, white tiger and protest.

Introduction

The main focus of Aravind Adiga's writings is the social life of an average individual. Adiga explores the innermost parts of human

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nature and how they give rise to acts of assault, theft, and dishonesty by tracking the downfall of the underdog. He carefully investigates the nature of reality by studying the social inte[illegible] of common people. More attention is paid to societal stigmas than to solutions. Even if they might not receive much attention, it is crucial to address issues and problems that affect the community. A[illegible]ing these societal issues [illegible] social faux pas are ignored. The first step in tackling these societal issues is raising awareness of them. The book highlights various wrongdoings in Indian democracy and society. This book deftly draws attention to the spiritual, social, and political problems in India by fusing sociological studies on the country's poverty and suffering with humorous and sardonic components. This essay seeks to offer a critical assessment of the political and social interventions made in the book. The protagonist of The White Tiger, Balram Halwai, goes through the whole gamut of human emotions, from despair to repression and all points in between. Focusing on a negative view of India, the author reveals the truth behind the image of the nation. Adiga believed that the culture of India was one of pervasive enslavement and tyranny; in India, males are forced to justify their illicit activities since people who are born into poverty have little opportunities for upward mobility. In actuality, India handles the majority of the issues Adiga brings up in this article.

Review of literature

Arunraj (2021) - In his works published in 2021, renowned Indo-Australian author Aravind Adiga, a significant figure in Post-Colonial Indian English literature, masterfully captures the vast cultural diversity of India. In his books and short stories, he addresses the social and economic realities of society. He addresses both the country as a whole and contemporary Indian society. He is a standout among Indian authors who compose works in the English language. The White Tiger, Vera Adiga's debut book, delves into the oppressed and their fight for liberation. He writes about a whole new spectrum of subjects in his latter works. The recurrent themes of Adiga's Between the Assassinations include the millions of starving Indians, the youth's deceiving of both society and religion, and the poor people's struggle against the nation's long-standing social order. Adiga's novels are

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best characterized as pure sociological realist works because she bases her themes on actual occurrences.

Rahman Atikur (2021) - Aravind Adiga's "The White Tiger" skillfully captures and documents cross-cultural exchanges in India across all spheres of Indian life. Adiga skillfully illustrates this point with instances of cross-cultural exchanges within India, showing that one of the best things about our country is its diversity. There's a lot of cross-cultural dialogue and understanding going on here because people from so many various cultural origins live in our country. India's cultural issues have long prevented the nation from reaching its full economic potential. A significant portion of India has also been ignored during this process, which has exacerbated conflicts between the wealthy elite and the general populace. Those who read the book with focus will probably have many questions regarding the relationships between the "haves" and "have-nots" in the story. When different cultures mix, the cultural homogeneity of our society is revealed. Numerous venerable rites and rituals have been examined through the lens of modernism.

A. Mathavi (2019) - The two greatest Indian writers to write in English, according to Aravind Adiga and Chetan Bhagat, are (2019). Marxist perspectives on Indian society are shared by Aravind Adiga and Chetan Bhagat. Both authors draw attention to an issue with Indian culture today. We examined the community's cultural and economic elements. The chosen works by Adiga and Bhagat are the subject of this study since they illustrate modern Indian culture.

Gandhimathi, A. (2018) - Aravind Adiga was born in India, although he received his schooling in the US, UK, and Australia. Adiga was a pioneering writer in modern-day India. His background as a journalist offered him an advantage when it came to portraying the darker aspects of the nation in his writing. The writings of Aravind Adiga touch on nearly every facet of human society. Adiga paints an honest portrait of an expanding India. Adiga adeptly elucidates the fundamental issues that contemporary India confronts. Adiga's third book, "Last Man in Tower," explores Mumbai's real estate issues in greater detail. "The White Tiger," Adiga's 2008 Man Booker Prize-winning novel, presents India as a multifaceted, cosmopolitan marvel. The author rejects and ignores any and all recommendations for improving India.

Anthony Raj (2017) - Being human involves having a culture. Resilience is a trait that people embrace, value, and work to develop. It comes more from facing and conquering adversity than from having it all go smoothly. We can't separate the two, even though the gra[illegible] steady integration of our ancestors' [illegible] our own has expanded this culture's global reach. Conflicts are prone to worsen in a community when members find it difficult to accept and even value one another's differences. Divides and misinterpretations can originate from differences in a plethora of different domains, including but not limited to religion, politics, culture, economy, and race. In Between the Assassinations, the same author discusses the ways in which the ruling elite oppresses the common people. This project aims to investigate the many social power systems and how they impact people's day-to-day lives.

Classism/Social Class

Class conflict and enduring socioeconomic inequality have existed from the beginning of human history. Literature provides a window into society through its vivid and frequent portrayals of class conflict. The societal and literary cultures of South Asia also exhibit this. Similar to many other South Asian nations, Indian society is extremely stratified. Numerous authors have written on this organizational hierarchy. Among them are Mohsin Hamid of Pakistan and Aravind Adiga of India. The White Tiger by Aravind Adiga is a wonderful illustration of contemporary cultural and personal values. Eliminating religious beliefs is necessary to topple this social structure. Numerous authors documented the class conflict and its elimination in reaction to these concepts. Aravind Adiga's debut book, The White Tiger, was written in India and was both a Man Booker Prize winner and a finalist.

Indian Social Milieu Represented in Books by Aravind Adiga

Its inventor, Aravind Adiga, delves deeply into a number of issues pertaining to society's invisible citizens. Most individuals see it frequently. Adiga portrays the dire circumstances of the longshots in the same solemn tone. Among the horrific murder, looting, and bloodshed, he depicts what an ordinary, low-class, law-abiding citizen might achieve. He explores the area of psychology that governs all men's unethical behavior in this scenario as part of his inquiry. Furthermore, his interest in Indian culture led him to look up details about the struggles that Indians faced on a daily basis. He believed that sharing his thoughts on the subject would be beneficial to his readers. Adiga writes on a variety of subjects in her numerous works, such as brave deeds, motivational stories, and the unwavering memoirs of common people. "I'm India's most dependable resident, I really have not seen inside a majority rule corner."

Theological Upheavals

The religious beliefs of certain nations may have an impact on their cultural traditions. A person's relationship with God matures with the practice of religion. India is a deeply religious country where people value their faith greatly. People in India practice a wide variety of religions. These consistent practices have resulted in the emergence of a community that is both disciplined and spiritually committed. However, the nation's religious institutions are rapidly decreasing due to scientific and technological breakthroughs. In Indian culture, religion plays a significant role. Indians follow a wide range of different faiths. Everybody has their own gods and beliefs. Rivers hold immense spiritual significance for Hindus. Some even consider rivers to be gods.

A Protagonist's Battle

The protagonist serving as both the narrative's main character and a model of virtue is a popular literary device. Balram's caste determines his social standing from the moment of his birth, hence he will always be employed in the sugar industry. Overcoming these cultural constraints is an extremely difficult undertaking. In contrast to the majority of Indians, Balram is adamant on leaving his native country and "living like a man." But he lacks the heroic traits that people expect heroes to possess. Unlike previous heroes, Balram would rather act "with near total dishonesty, lack of dedication, and insincerity" when given the chance than follow his moral convictions.

Country Life Represented in The White Tiger

Balram reveals early on that the Indian villages are constructed, with the pretext of old wisdom and socialist and democratic feudal values. In this passage, he alludes to the seminal works of orientalists such as O'Malley, Sir Henry Maine, and Sir Charles

Metcalfe, who represented India in their day as a place of bucolic village states, or "self-contained, inwardly turned societies consisting of cooperative communal agents." This point of view had already taken on an ideological shape before nationalists such as Rabindranath Tagore came to prominence. Instead, Balram depicts the small Bihari town of Laxmangarh, where the four royal families who lived there and demanded exorbitant fees for the region's natural and man-made wealth created an illusion of "anti-consumerism". Because there aren't enough excellent opportunities in agriculture and other fields, he claims that the small hamlet is in the "darkness" and that its landless citizens have moved to Chicago in quest of work. The males of Balram's village would go annually to bigger cities like Dhanbad, Delhi, or Calcutta in search of work if their family was unable to pay their landlords. They would leave their family and all of their belongings behind in order to relocate permanently, then return to their villages before the monsoons arrived "leaner, darker, angrier, but with money in their pockets."

Actions against Slavery and Blind Obedience

Balram grew more cynical and dishonest the more he learned about the dishonesty in Delhi. Now that he understood they had lied to him, the wealthy ought to pay the expenses. First, he thought to himself as he was accompanying Mr. Ashok, "Listen, Mr. Ashok is donating to all these politicians in Delhi so they will exempt him from the tax he has to pay." Finally, do you know who the taxpayer is? A typical American would need to pull it off. Balram succumbed to Mr. Ashok's callous supremacy and mindless obedience. If you want Balram to come out of the Rooster Coop, keep digging. After seeing Ashok's shady activities, which include gambling, stealing, and purchasing politicians, he decides to commit murder and theft. Once Adiga has penetrated his skull, he will be able to retrieve the crimson bag that has 700,000 rupees.

Results and discussions

A Critical Analysis of Aravind Adiga's The White Tiger- The White Tiger's Historical Background

While The White Tiger depicts Balram dealing with socioeconomic inequalities in modern-day India, the circumstances leading up to this moment started in 1947, the year India gained freedom from Britain as a consequence of the Indian Independence Act. The act, which declared the independence of India from Hindu rule, eventually increased racial tensions and led to the creation of Muslim Pakistan. In the 1960s, shortly after India attained independence, the system of castes was eliminated. For years, if not longer, the system has strictly governed every Indian's social position. Balram claimed that confusion and chaos resulted from the collapse of the caste system, which made inequity worse. The White Tiger is a captivating tale set in contemporary, affluent India. Through the implementation of an economic reform program and the acquisition of a sizable loan from the International Monetary Fund (IMF), the Indian government just managed to escape bankruptcy in 1991. Fast growth in the economy and a consistent flow of foreign investment were the results.

Additional Readings for The White Tiger

The writings of numerous authors across several centuries have impacted Adiga's own work. In The White Tiger, he discusses three African-American writers: Richard Wright, James Baldwin, and Ralph Ellison. Similar to how Ellison's Invisible Man aims to elevate marginalized Black Americans in America, Adiga utilized Balram's story to illustrate the inequalities that millions of underprivileged Indians still face today. Similar to how Raskolnikov in Crime and Punishment uses his own special desires and skills to justify the robbery and murder of an innocent elderly woman, Balram decides to kill his master because he believes he has the right to live by his own set of moral standards. Additionally, contrasting and contrasting the two works could teach you a lot.

The White Tiger

Prosperous entrepreneur Balram Halwai writes to Wen Jiabao, a Chinese dignitary, to assist him in preparing for his upcoming visit to India. All of his family simply called him "boy" (Balram Munna). One of his teachers gave him the nickname. Because of his family's religious beliefs, he was given the surname "sweet-maker." Balram shared a little home with his large family. As with his son, Balram drove rickshaws. It shouldn't matter whether Balram had academic difficulties in public school; an inspector might still refer to him as the "White Tiger," the most elusive monster. Balram was persuaded by Grandma Kusum to leave school and work as a tea server in order to support their family economically.

The White Tiger's Crucial Points

Below are just a few of the many thoughts that came to me when I was reading the book:

1. Balram is a representative of all Indians who live under the everyday terrors of persecution by their ruling class.
2. Oppressed people prioritize their own survival because of the great harm that the Indian system has done to their innate fragility.
3. Considering that India is the world's largest democracy, the country's alarming economic inequality is the subject of the third argument.
4. The Indian political elite is unique and fascinating, to sum up. Using Mahatma Gandhi's name all the time would eventually cause a snowball effect that would result in inquiries into even the most horrific atrocities.
5. In India, a few people have abused democracy for personal benefit, and the rest of us are paying the price.

A Psychological Thriller Turns a Dickensian Rags-to-Riches Story in White Tiger

The issues that young Indians face as a result of their nation's growing globalization are explored in both the novel The White Tiger by Aravind Adiga and the movie Slumdog Millionaire starring Chaitanya Tripathi. Given that the main character in Adiga's book amassed fortune through dishonest methods including lying and stealing, it is cynical and morally repugnant. A darker and funnier film adaptation of The White Tiger has been produced, twelve years after the cheerful Slumdog Millionaire. The film includes a funny commentary on how the story unfolds after the million-rupee award is revealed.

Flashbacks are used by Balram, portrayed by the illustrious Adarsh Gourav, to tell the story. We first meet Little Balram, a local in a town known for its coal mining. Although his controlling grandmother forbids him from attending school, he gets work in a tea shop since he would much benefit from it.

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Conclusion

Through its sociological facets and characters, Aravind Adiga's The White Tiger offers an insightful view into modern Indian culture. This outcome warrants consideration: Finally, but just as skillfully, Aravind Adiga's The White Tiger captures India's complex social and economic stratified hierarchy and its unwavering quest for economic advancement. The article makes several socioeconomic stereotypes and the expectations and limitations put on them clear. They include a host of supporting characters, the tortured icon of affluence Mr. Ashok, the ambitious but morally dubious anti-hero Balram, and many others.

Adiga shows the widespread impacts of class divisions, institutional injustice, and corruption in order to provide a critical analysis of the fundamental causes of inequality. The book also looks at the moral dilemmas that people have when they witness rampant corruption. Balram makes a series of foolish and self-serving decisions in an attempt to save himself, which cause the reader to consider the limitations society places on individual freedom. The White Tiger provides a thoughtful examination of the subject by examining the relationship between goals, societal standards, and the challenges experienced by people attempting to leave their current situation. As you do this self-examination of India's broader economic and social milieu, consider the human cost of development and the sacrifices necessary to achieve societal advancement.

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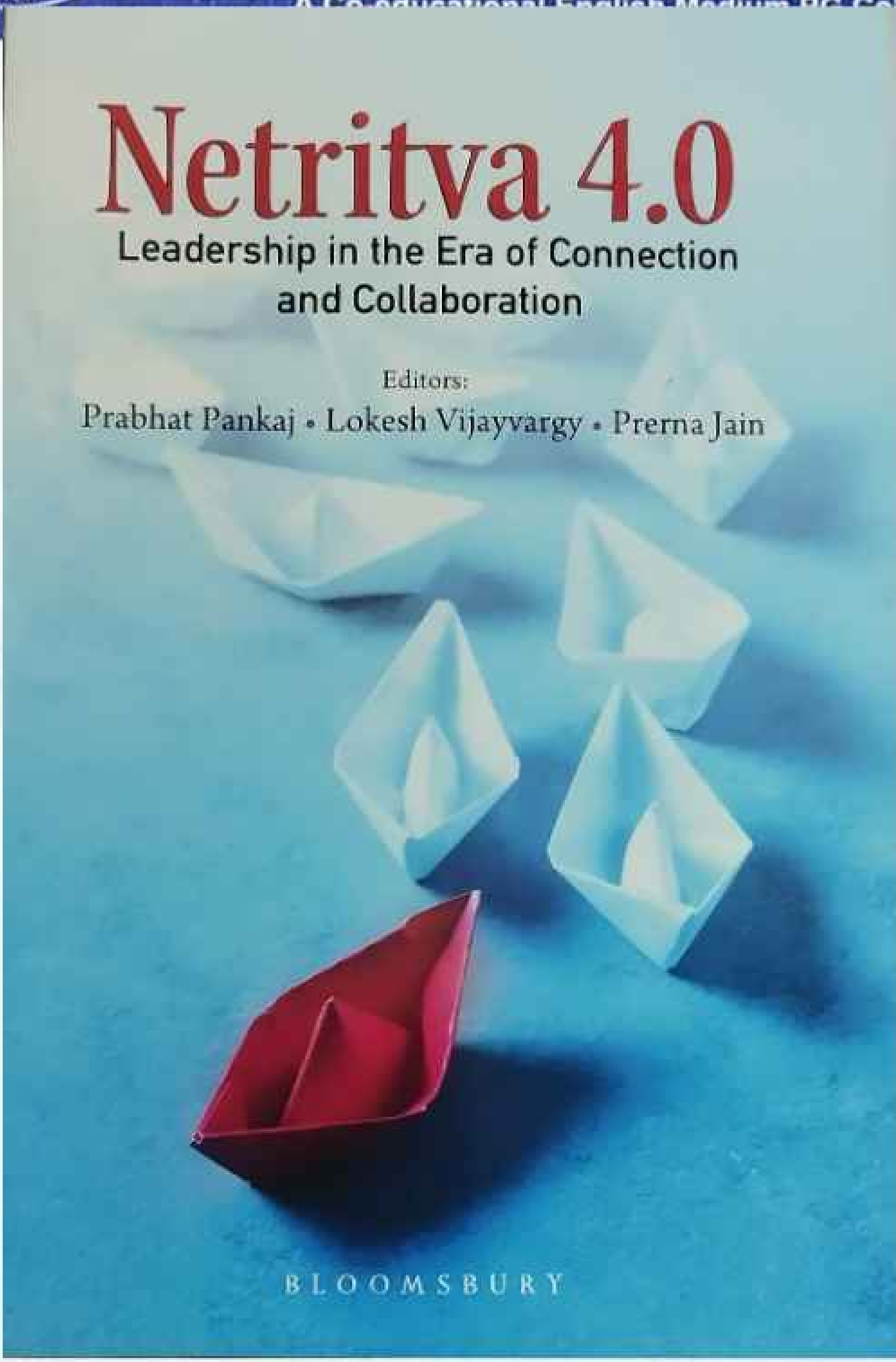

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Dynamic Corporate Scenario: Role of 4.0 Leadership Style

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Abstract

The cellular connectivity technology started with one G (1G) has now entered into 5G stage. The fundamental features of modern technology are digitalisation, artificial intelligence, robotics, etc. Use of modern technology caused 4.0 Industrial revolution. 4.0 Industry has changed the vision of macro and micro leaders. In the present paper an attempt has been made to develop four-dimensional leadership matrix (X-axis: 1.0 Industry to 4.0 Industry along with advancement of technology, Y-axis: concern for people, production or productivity, Z-axis: Concern for market share). At the end of the paper role of 4.0 leadership is being summed-up in the context of corporate dynamics.

Keywords: *Digital Leadership, Financial Inclusion, Globalization, Diversity, Deflationary, Inclusive Workplace*

The history of industrial revolution explains the fundamental features of corporate dynamics. In the 18th century first Industrial revolution started in England. Use of steam power in industries enabled mechanisation of production system. To manage the factory system of production, the company (Corporate) form of organisation came into existence. Early management thinkers like Charles Babbage, F.W.Taylor, etc., contributed to the mechanistic approach to management. The corporate leaders started application of the principles of scientific management.

The discovery of electricity initiated the second industrial revolution during the years 1870 to 1914. Development of communication and transportation systems facilitated corporate's business operations. In 1970s development of Information Technology, use of computers and electronic devices initiated the third Industrial revolution. During the years 2000 to 2010, fourth Industrial revolution (4.0) started with the use of modern technology such as Artificial Intelligence (AI), Cloud Computing, Internet, Robotics, etc., in Industries. Digitalisation influenced corporate leader's vision, mission and managerial approach.

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Bloomsbury Publishing India Pvt. Ltd
Second Floor, LSC Building No. 4, DDA Complex,
Pocket C – 6 & 7, Vasant Kunj,
New Delhi 110070

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First published in India 2023
This edition published 2023

ISBN: 978-93-5640-279-9
2 4 6 8 10 9 7 5 3 1

Typeset by Fortune Graphics, Naraina, New Delhi
Printed and bound in India by Replika Press Pvt. Ltd

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Macro Dynamics

A corporate unit is a socio-economic unit. The business environmental forces both national and international affect corporates, their leaders, employees and business operations. At the Chief Executive Officers (CEO) conclave (2021) organised by the *Economic Times*, Mr. Jain, Rajesh, Managing Director, LPS Bossard observed that , 'In line with PM Modi – Digital India, we deployed Industry 4.0 and robotics in assembly, we are building modern workplace which enables us to work from anywhere, not only from home or office'.

The first-generation cellular connectivity (1G) started in 1980s in Japan and USA was not digital but the second generation (2G) started in 1990s was entirely digital. 3G or High-speed Packet Access (HSPA) was introduced in the year 1998. 4G introduced in 2009 has made availability of smart phones and dynamic mobile platforms. On the first October, 2022 India has been included in the world's list of countries having 5G connectivity Prime Minister, Narendra Modi has rolled out 5G services at the India Mobile congress in New Delhi. The fast speed of 5G services will affect not only the corporate sector but also the other sectors of the economy and human lives.

The Indian model of governance based on digital and transparent governance has been appreciated by the World Bank, International Monetary Fund (IMF), World Health Organization (WHO) and most of the foreign countries. COVID-19 pandemic created crisis all over the world. But Aarogya Setu App has enabled the Indian government and health agencies to vaccinate more than 100 crores of people. India played an important role to supply corona vaccines to many of the foreign countries. The Country's Pharmaceutical exports reached to USD 16 billion (Rs 1.2 trillion) in the financial year 2019–20.

The Unified Payment Interface (UPI) using mobile apps is the backbone of the digital payment system. In the recent period of 2022, UPI has processed more than 45 billion transactions valuing more than Rs 80 trillion. People in rural areas also enjoy benefits of QR code scan for payment. Jan Dhan accounts opened under the Jan Dhan Yojna – a national mission towards financial inclusion have been linked to mobile and Aadhar numbers for transferring direct benefits to people. In the recent decade, India has emerged as the second largest internet user and mobile manufacturing hub in the world. The government's policies regarding ease of doing business, digitalisation, simplification of Goods and Services Tax (GST), etc., are changing foreign investors attitude towards India. The global corporate leaders perceive India as comparatively more attractive Centre for their investment.

Corporate Dynamics

The corporate world has shifted to new digital ways of working which has opened the doors to innovation and unleashed the entrepreneurship. The policies of liberalization, privatization and globalisation have multiplied the size and number of units in the corporate world. The Indian companies are competing to capture global markets. The start-ups designing marketing strategies to join the club of unicorns. The three dimensions of 4.0 Industrial revolution such as digitalisation, uncertainty and global competition have caused corporate dynamics to judge the success and effectiveness of corporate leaders.

Leadership Matrix

In 4.0 Industries, corporate leadership has witnessed a dramatic shift from autocratic style practiced during the period of first Industrial revolution towards a more collaborative and digital approach. Now the corporate leadership has acquired the status of digital leadership. Digital leadership is the ability to synthesise democratic, behavioral values and digitalisation process to predict and manage organisational and environmental realities. At the 'Asian Business Leaders' conclave organized by the *Economic Times* Thakur, Rajeev (2020), Director, Grassik Search Private Limited, observed that, 'Agility of response will become the primary tenet of leadership. Leaders will need to keep evaluating emerging trends and respond quickly.'

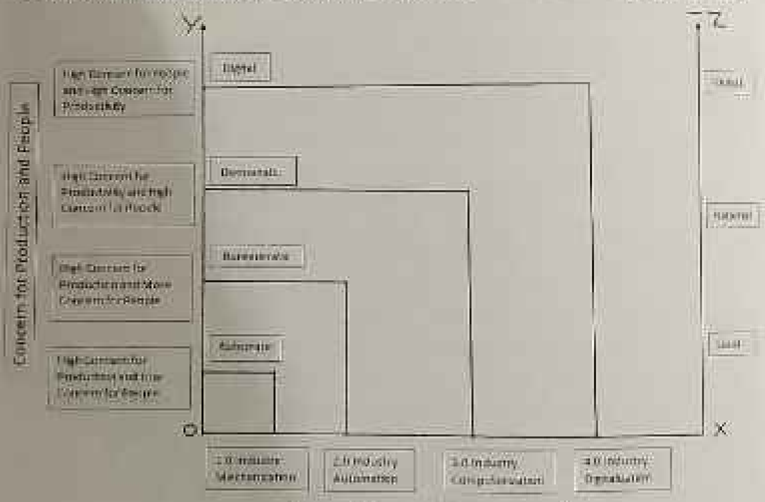

Figure 1: Four-Dimensional Leadership Matrix

In the context of competitive environment, today's corporate leaders emphasize adaptation to modern technology along with concern for people and productivity. Therefore, a four-dimensional leadership matrix (Figure 1) has been developed associating advancement of technology on x-axis, concern for production/productivity and people on y-axis and concern for market share on z-axis.

Autocratic Leadership

The priority of autocratic leaders is to get more and more production. They have minimum concern for people and their interest. Conducting business operations, they take more care of physical and mechanical systems than employees working in the organisation.

Bureaucratic Leadership

To conduct business operations the bureaucratic leader's priority becomes enforcement of rules and procedures. They believe in functional and administrative approach. These are highly concern for production but as compared to autocratic leaders show more concern for people also. Consequently, they start some employee's facilities, provide fringe benefits and launch employee welfare schemes.

Democratic Leadership

In industry 3.0, the corporate leaders were influenced by behavioral and motivation theories. The democratic and participative leaders involved subordinates in decision making process. Leaders emphasised satisfaction of employee's needs. In the context of competitive forces in markets, improving product quality and employee's productivity became the central issues. Robbins has rightly mentioned that, 'An organization is productive if it achieves its goals and does so by transferring inputs to outputs at the lowest cost. As such, productivity implies a concern for both effectiveness and efficiency'. Thus, democratic leaders have high concern for employee's satisfaction as well as improving employee's productivity.

Digital Leadership

The IIT, MBA, CA, engineering graduates, etc., having professional knowledge join the modern corporate sector. To manage modern matured youths the leadership concepts of autocratic and bureaucratic styles will not work. Even the democratic leaders behavioral and motivation approaches to improve employees satisfaction at work are not sufficient.

As shown in Figure 1 a four-dimensional leadership matrix has been developed associating advancement of technology on x-axis, concern for production and people on y-axis and concern for market share on z-axis.

Today's youths want opportunities to use their skills and abilities. They want fast development. Therefore, the digital leaders first priority is people how to retain the professional talent in the organisation. The digital leaders design training programs to develop employees technical and digital skills provide them digital platforms to use their technical skills. The second priority of digital leaders is to increase productivity. In the context of fast changing world and global markets now the concept of productivity involved three dimensions, i.e. quality, creativity and innovation. In the modern corporate sector, the employees having creativity and innovative skills to improve quality and productivity have more opportunities for fast development. These employees contribute to capture the global markets and serve humanity in a better way. As we have seen during the COVID-19 crisis period in the pharmaceutical companies the employees and leaders, who have used their creative and innovative skills to develop better vaccines were appreciated by all including the macro leaders.

As shown in Figure 1 the fourth dimension in the leadership matrix is the market share. During the period of first industrial revolution the autocratic leaders priority was to approach the local markets. During the periods of second and third industrial industrial revolutions the bureaucratic and democratic leaders made efforts to capture national markets also. But 4.0 digital leadership use digital platforms to increase corporate's share in the global markets.

Role of 4.0 Leadership

The digital leaders adopt digital and modern technology to update the organisational systems and sub-systems. To conduct business operations, they hire youths from engineering and management institutes, Universities and Colleges. These youths having technical and professional skills constitute the teams of digital leaders to use digital technology in 4.0 Industries. Mr. Nadella (2022) Microsoft CEO has rightly said 'Investment in both digital infrastructure and skilling is equally important in the current macro-economic scenario. Digital technology is a deflationary force in an inflationary economy'.

People coming from different backgrounds, cultures, caste, religion join the corporate sector. The corporate sector leaders ensure inclusion in diversity. They believe in building mutual trust among leaders and team leaders. In the open working environment, each team member feels included in business decisions and operations. In the context, the famous logistics company Blue Dart celebrate 'Diversity Week' across all Blue Dart offices and service centers. The object is to educate people and spread awareness about the importance of diversity and inclusion.

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Digital leaders believe in developing their corporate unit as the best workplace. In a study of 10,000 corporate organization from over 60 countries (2022) by, the 'Great Place to work Institute' it was concluded that, 'In 100 top best companies doing healthy business is about improving results by creating work place culture, where leaders empower all individuals to reach their full potential and where every employee feels a sense of belongingness regardless of their demography'.

Digital leaders provide digital platforms to employees to submit innovative and creative ideas. In fact, listening culture is being developed. In the year 2014, Reliance Industries launched a mission, 'Kurukshetra'. It is an Artificial Intelligence (AI) powered digital platform, where employees collaborate and submit innovative ideas to grow the company. Sales force, a cloud-based software company has installed 'Innovation Box (IB) to submit valuable business ideas create challenges, share feedback and collaborate on projects. Most of the IT companies such as WIPRO, Infosys, etc., are considered centers for developing digital leaders in the country.

The role of women has been increasing in all the sectors including entrepreneurial community and corporate sector. To bridge gender gap corporate leaders, hire, promote and empower women employees. In the recent survey 'India's Best work places for women' (2022) conducted by 'Great Place to work Institute' in more than 1,000 organisation, 78 per cent of the women employees believe that their organizations provide special benefits to them. CISCO has designed 'The Women Inventor Network (WIN)' membership programme. It focuses on mentoring and motivating women and people from diverse backgrounds to bring their perspective to the Innovative Imperative.

The crisis of COVID-19 has proved that merely increasing the size of economies and companies are not always virtues. The ultimate aims of technological and economic development must be human welfare, protection of natural environment, development of happy and peaceful societies, etc. all over the world. Present macro and corporate world leaders being custodian of society must realise the need to leave behind a better world for future generations. They must plan and make efforts to reduce gap between developed and developing economies.

On 16th November, 2022 taking over presidency of the G-20 Summit for 2023, PM Narender Modi said that digital transformation is most remarkable change of our era. He perceived that citizens of the most of the developing countries of the world do not have any kind of digital identification. Only 50 countries have digital payment systems. Therefore, he announced that during the G20 presidency in 2023 India will work jointly with partners in the group of G20 largest economies to achieve the objective of digital transformation.

According to Panda (2022), 'The India lead G20's theme, 'Vasudhaiva Kutumbam-one Earth, one Family, one Future', could not be more crucial during a time of global rifts and pressures that are bearing political and economic consequences'. He further observed that India has both the opportunity and the means to make a lasting impact. India is considered a world leader in digital payments. In addition to digitalisation development of women leadership will be key issue of discussions of India's G20 presidency.

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JOURNAL of THE ASIATIC SOCIETY OF MUMBAI

1804

CERTIFICATE OF PUBLICATION

This is to certify that the article entitled

CORPORATE GOVERNANCE, INVESTMENT RISK, AND COMPANY VALUE: RESEARCH AND PRACTICAL EXPERIENCE OF YES BANK

Authored By

ज्ञान-विज्ञान विमुक्तये

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University Grants Commission

Published in Vol. 97, No. 02 February 2023

JOURNAL OF THE ASIATIC SOCIETY OF MUMBAI with ISSN : 0972-0766

UGC-CARE List Group I

Impact Factor: 5.29

UGC

Editor in chief

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Journal of the Asiatic Society of Mumbai
ISSN: 0972-0766 UGC Care Group 1 Journal

CORPORATE GOVERNANCE, INVESTMENT RISK, AND COMPANY VALUE: RESEARCH AND PRACTICAL EXPERIENCE OF YES BANK

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ABSTRACT

This is the research article that will primarily focus on the challenges faced by the Yes Bank located in India. It is seen that there have been large withdrawals done by the customers that have impacted the records of the bank. Along with this, the impact of poor corporate governance on the business functions as well as investment risks is also discussed. It is seen that the poor corporate governance of Yes Bank is having a negative impact on the investors as they fear investment risk in Yes Bank.

KEYWORDS: Yes Bank, Corporate Governance, Investment Risk, Scam, CSR activities

INTRODUCTION

BACKGROUND

Corporate governance refers to the system which is used to direct and control companies. The Board of directors is appointed to manage the governance of their organizations, and the shareholder's role is to appoint those directors to maintain a proper governance structure for the smooth functioning of organizations. It is observed that corporate governance is given the most importance in the banking sector because it helps in managing systematic risk, and ensures financial stability. Moreover, after the global financial crisis, the banking sector is focusing on reexamination of corporate governance so that management can take necessary steps regarding the failure of the board, and this helps in overcoming the problem of financial instability. In this research paper, a case study of Yes Bank is selected to focus on the importance of corporate governance, and the impact of investment risk. Analysis of investment risk will help in understanding how the bank is performing to deal with the prevailing risks to ensure business effectiveness. Moreover, company value needs to be analyzed based on the practical experience of Yes Bank to understand how organizational value and culture are helping the bank maintain its business performance.

It is observed that Yes Bank is the fourth largest among the private sector banks, and it is playing an effective role in maintaining the top corporate governance standard across the organization. The bank is well-known for its most efficient Board of Directors, and the organization along with other effective employees is complying with statutory requirements (Yesbank. in, 2022). The bank is well-known for its highest standard of corporate governance across the world. Corporate governance is considered to be effective when it is manifested with professional values and beliefs and maintaining organizational values to focus on the actions of employees. The bank focuses on maintaining the standard of corporate governance because effective governance helps organizations build trust and proper relationships with investors.

The main objective of the research paper is to analyze the significance of corporate governance in Yes Bank, and how it is helping to manage the effect of investment risk in the banking business. In addition, practical experience of Yes Bank regarding its company value and corporate governance will be researched to understand how the bank is performing to manage its business in the banking sector.

The aim of the research paper is to understand the importance of corporate governance in the banking sector. A case study of Yes Bank is considered here to understand how the corporate governance is helping the bank to carry on with its business operation. Additionally, practical experience in the research paper will help to understand how organizational value is helping to deal with the impact of investment risk in the business process.

RESEARCH QUESTIONS

- What is the significance of corporate governance in the banking sector?
- What is the impact of investment risk on Yes bank? Support with evidence and experiences of the bank.
- What is the meaning of company value, and how is it important for a banking business?
- With the help of the practical experience of Yes Bank, what can you explain regarding the significance of company value in managing investment risk in the banking business?

LITERATURE REVIEW

OVERVIEW OF YES BANK

Yes, Bank was found to be the bank that was growing at the fastest pace in the early years of its career. The bank was developed in 2004 under the approval of RBI. The bank was established by Mr. Rana Kapoor, Mr. Harkirat Singh, and Mr. Ashok Kapoor (Akhtar *et al.* 2021). The dream of establishing an accurate professional bank in India finally came true. Yes, the Bank is involved in providing several services like financial services and banking services. There are four segments in the operations of the bank and they are Treasury, Retail Banking, Corporate or Wholesale Banking, and other operations in banking. The treasury segment of the bank looks after the investments done by the customers of Yes Bank. The retail banking segment includes the deposits and services of the retail customers, and corporate or wholesale banking includes deposits as well as services of the corporate customers. The other banking services are the ones that include merchant banking and product distribution. It is seen that the bank had taken several measures to allow the corporate lending process. The primary focus of the bank was on the real estate, electrical sectors, renewable energy, and media. Yes, the Bank was involved in the process of aggressive lending and helped the companies and the corporate sectors that are in need. However, the rate of interest was found to be quite high when compared to that of the other public as well as private banks. By the year 2015, Yes Bank had launched a campaign that is named "India Bole Yes" to make its position in social banking with an initial investment of around $120 million. The campaign solely depended on the confidence index of customers produced by Nielson and this index states that most Indians are sure about the future. However, the penetrating marketing strategies didn't fall in place and therefore, the campaign drastically failed. The failure of the campaign occurred as an entire dependence of the campaign was on the trust of the Indians. In the year 2016, there was an announcement in the bank about the in-principle approval received from the "Securities & Exchange Board of India (SEBI)" so that it can sponsor mutual funds and then set up an "Asset Management Company (AMC) along with a trustee company (The Economic Times, 2020). Yes Bank was the first bank in India that had started its operation in GIFT City in the year 2015. It is seen that till the year 2017, there was a triumph in the market of Yes Bank. However, there had been a piling up of the non-performing assets due to the ramification of the bad loans by the bank. This was leading to the downfall of the bank.

There are several strengths, weaknesses, opportunities, and threats of the bank and they are discussed using the SWOT analysis. The SWOT analysis is the tool that would focus on the internal environment of any organization.

STRENGTHS OF YES BANK

- Rise in the Net Cash Flow and Cash from operations: The cash flow from the operations in Yes Bank has taken a good leap positively. There has been an improvement in the core business of the bank and there is a high potential for profit in the bank.

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- Diversity in business: There are four segments in the business of the bank which shows that the business is highly diversified in nature.
- High level of technology: There is a dependence on effective technologies so that the banking and financial services of the bank are effective (Sahoo and Kotiya, 2022).

WEAKNESSES OF YES BANK

- Low profitability: It is seen that Yes Bank is stuck in a negative ROA for some time. This means the assets are not utilized properly to generate enough profit.
- Digital media use in the rural areas: There is no widespread use of digital media in the rural areas of India and this makes the banking facilities in the rural areas weak (Sahoo and Kotiya, 2022).

OPPORTUNITIES OF YES BANK

- Global market: Banking facilities are available in the global market and there is a presence of fewer restrictions in the global market. This provides Yes Bank the opportunity to go worldwide and then achieve all the objectives in the commercial field.
- Expansion of services to clients: There can be the implementation of the customized services by the bank for its clients to enhance the chances of business,

THREATS OF YES BANK

- Threats of security: When there are issues regarding security in the bank, then this can be a serious threat to the banking services.
- Competitors across the world: There is a presence of global competitors that may impact the business of Yes Bank.

CHALLENGES FACED BY THE BANK

Source: The Economic Times, 2020

There are severe challenges that were faced by the bank. It was seen that many borrowers from the bank started to default on the gross non-performing assets percentage of the bank (Agarwala and Agarwala, 2019). Yes Bank has the highest percentage of the overdue loans for more than ninety days. The other challenge for the bank was piling up the bad loans and this made a decline in the provisions

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of the bank. There has been the withdrawal of large amounts by the customers of the bank and this led to the increase in the lent without increasing the amount that is received. These challenges that are faced by the bank led to the crisis in the bank. It was seen that in the year 2018, there was a whistleblower who mentioned the different irregularities of the operations in the bank (Barik, 2021). It was challenging for the bank as most of the loan assets of Yes bank that were related to the real estate firms were facing the biggest decline in India (Malik, 2022). The bank made a huge credit to Reliance Telecommunications that was later declared bankrupt in 2019. These made the functioning of the bank challenging in the banking industry.

Source: Ghosh, 2022

Amidst all the challenges, there was a scam that occurred in Yes Bank which made it more difficult for it to perform. Central Bureau of Investigation (CBI) had reported that the co-founder of Yes Bank named Rana Kapoor along with his family members is involved in receiving kickbacks of 600 crores for the investment amounting up to Rs. 3700 crores in the housing company named DHFL (Rajput, 2022). The allegation against the Kapoors is related to Doit Urban Ventures. According to the reports of the CBI, it was seen that Kapoor who is the head of the management of Yes bank sanctioned a loan amounting up to Rs 750 crore so that the development of the Bandra Reclamation Project could be possible (Ghosh, 2022). However, this purpose was not fulfilled. It is also found that the arrest of Rana Kapoor has magnified the image of the bad loans in the bank.

CSR project	Project Sector	Project locations	Amount outlay (in cr Rs)	Amount spent (in Cr Rs)	Budget outlay not spent (in %)
Livelihood and Water Security	Making available safe drinking water, Livelihood enhancement, Promoting preventive healthcare & sanitation, Ensuring environment sustainability	Maharashtra, Rajasthan, Karnataka, Odisha, MP, Gujarat, NCR	[illegible]	[illegible]	[illegible]
Say YES to Sustainable MSMEs in India	Promoting preventive healthcare, Promoting education	Pan India	[illegible]	[illegible]	[illegible]
Employability & Entrepreneurship	Promoting education, Livelihood enhancement	Pan India	[illegible]	[illegible]	[illegible]
Environmental Sustainability	Ensuring environment sustainability, Promoting education	Sikkim, Madhya Pradesh, Rajasthan, Assam, Maharashtra, Delhi, NCR	[illegible]	[illegible]	[illegible]
Yes Community	Promoting education, Livelihood enhancement, Promoting preventive healthcare, Ensuring environment sustainability	Delhi, Maharashtra, Goa	[illegible]	[illegible]	[illegible]
Contribution towards PM CARES to help fight COVID-19		Pan India	NA	[illegible]	NA
Expenditure on administrative overheads			NA	[illegible]	NA

(Source: thecsruniverse.com, 2022)

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There had been a red alert for Yes Bank in the year 2020 when it failed to spend more than 50% of the budget allocated for CSR activities. The banking company was supposed to spend a total of Rs. 83 crore on the CSR functions in the year 2018-2019. However, Yes Bank could only make expenditure up to Rs 40 crore for the CSR. It is seen from the image given above that only Rs 21 crore has been spent on the security of livelihood and water whereas the budget sanctioned for this activity was Rs 42 crore (thecsruniverse.com, 2022). "Say YES to Sustainable MSMEs in India " had only Rs 1.89 crore spent on it whereas the budget allotted for it was around Rs. 8.34. This shows that the bank did not fulfill the CSR activities as per its promise. However, when the bank was asked to throw light on the reasons behind such low expenditure on CSR activities, it was mentioned that the "delay in the approval of projects" was the main reason (Kunjukunju, 2020). The bank also cited the moratorium imposed by RBI as the other reason for the low expenditure in the year. This impacted the business of Yes Bank to a great extent as the functions went downhill amidst every controversy.

FACTORS THAT LED TO THE FAILURE OF YES BANK

Yes Bank had assumed that there is an urgent job in the development of the finances of the nations. It is seen that RBI had requested the originator of Yes Bank named Rana Kapoor to look through the breaks of privacy and also administrative rules that remained uncovered in the reviews. It is seen that there are several factors that played significant roles in the failure of the bank.

- **Bad loan:** Most of the banks located in India are having a significant issue that the advances are not reimbursed. These advances are referred to as the Non-performing Assets. It is seen that Yes Bank has borrowed from several organizations like DHFL, Café Coffee Day, Anil Ambani Gathering, etc. that are already bankrupt. This led to an increase in the percentage of the gross NPA in the year 2019 (Kumar and Upadhyay, 2021).
- **Outflow of liquidity:** Yes Bank was seen to be facing the outpouring of the liquidity and this implies that the bank is seeing the withdrawal of the stores of the clients. It is seen that the bank had witnessed a drop from Rs. 2.09 lakh crore to Rs. 1.37 lakh crore (Kumar and Upadhyay, 2021). There has been a negative impact on the monetary records as the investors started moving to more trustworthy banks.
- **Corporate Governance:** It is found that the governance of Yes Bank was found to be guilty as there were several frauds at the CG powers and the industrial solutions. Yes Bank was constantly lending to the corporate businesses that were at risk. The Bank was constantly hiding all the NPAs or was misreporting these (Bag and Islam, 2017). There was no proper involvement of the chairman of the lender's committee in the decisions made in the bank.

INVESTMENT RISK

Investment risk can be referred to as the probability of the events of losses that are relative to the return that is expected from any particular type of investment. This can be simply stated as the measure of the high level of uncertainty that is associated with returns as per the investors' expectations. This can be defined as the extent of the unexpected results that are needed to be realized. Investment risk can be considered an important component in the assessment of the different prospects related to the investment being done. When the investors tend to invest, they hardly consider the risks that are associated with the investment. However, it is suggested that the higher the risk, the better the chances of return on investment. In the case of Yes Bank, it was seen that the retail investors who made investments in the perpetual bonds that are issued by Yes Bank are under the impression that these bonds are highly equal to the fixed deposits. They feel that they are at risk of losing the entire investment. These perpetual bonds do not have any maturity date and the only way in which the investors can ask for their money back is by selling these bonds to the "secondary debt market" unless the bonds are called back by the issuers (The Economic Times, 2020). If the issuer, that is Yes bank, is not able to redeem the bonds on its own, then there are chances that the investors will lose the entire money. This shows the disability of the bank which led to a high level of investment risk for the investors.

CORPORATE GOVERNANCE

Corporate Governance can be defined as the structure of various rules and processes that are used to direct as well as manage a certain company. The direction and the control of the company are associated with the corporate governance of that company. This is the process that usually involves the balancing of the interests of the stakeholders who are the shareholders, executives of the senior management, suppliers, customers, the community, and the government (Faleya and Krishnan, 2017). There are basic principles related to corporate governance and these are accountability, fairness, responsibility, and transparency. The board of directors of any company is the main stakeholder that influences the corporate governance of the company. There are policies related to corporate governance that can be incorporated into the strategy and risk management of the company to make the company work effectively in the market.

INITIATIVES OF CORPORATE GOVERNANCE IN YES BANK

Corporate governance initiatives are taken in the bank and it has promised to establish a high level of corporate governance in the organization. It is believed by Yes Bank that there is a need to view Corporate Governance as more than just the requirements of the regulations. It is seen that the composition of the board of directors of Yes Bank is done in accordance with the "Banking Regulation Act" and follows the best practices associated with Corporate Governance (Joshi, 2020). There is a setting of 10 sub-committees at the board level and this setup has been done in accordance with the Companies Act 2013 and the Banking Regulation Act 1949. It is also seen that Yes Bank has launched its code of conduct so that ethics can be maintained accordingly in the organization. There has been the formulation of the "Whistle Blower Policy" and this policy is completely in line with the practices of international governance.

FAILURE OF CORPORATE GOVERNANCE IN YES BANK

Banks survive on the risk of the borrower. It is seen that after the financial crisis of 2008, there were regulators of financials who made some changes in the bank regulations. However, Yes Bank was lending to the different corporations that were already at risk of business. This high amount of exposure to loans led to an increasing level of risk in the case of Yes Bank and this led to its failure (Akhtar *et al.* 2021). The charge of the bank was handed over to Ravneet Gill and he found it difficult to keep a track of the deposits. The deposits were depleting constantly and therefore, the confidence of the market was slowly hitting the rock. The resignation of the independent director as well as the chairman of the lender's audit committee named Uttam Prakash Agarwal dealt the last blow. He also mentioned that he was never included in any decision-making procedures regarding capital raising by the management. He mentioned that he was thoroughly kept in the dark during the procedure. According to him, the bank is not run by the board. Instead, it is run by the management. Thus, corporate governance has failed to a great extent.

REVIEW OF GAP

As per literature gap, it is observed that there is lack of evidence regarding the significance of company value in managing investment risk in Yes Bank. Moreover, articles and journals are reviewed to show the importance of corporate governance, but the literature gap shows that additional secondary data need to be collected to focus on the negative effect of improper corporate governance in the banking business.

DISCUSSION

It can be mentioned that corporate governance plays a very important role in business functions. While reviewing the cases of Yes Bank, it is seen that there are scams present in the bank where Rana

Kapoor and his family allegedly received kickbacks of Rs. 600 crores. It is also seen that less than 50% of the budget designated for CSR activities is used by the company for that purpose. Yes bank was involved in the bad loans where it started helping the businesses who are already in debt or are bankrupted. It is visualized that there is no involvement of the board in the decision-making process which is making the business operations fail. The decisions regarding bad loans were taken by the management of the company. This is showing a failure in corporate governance. It is also seen that the perpetual bonds are being brought to action by the management of the Yes Bank and this led to the investment risks of the investors. The retail investors who have already invested in different perpetual bonds are at the risk of losing their money. Thus, failure in corporate governance is having a negative impact on the investments and the business operations of any bank including Yes Bank.

CONCLUSION

To put it in a nutshell, it can be mentioned that Yes Bank is the fourth largest among the private sector banks, and it is playing an effective role in maintaining the top corporate governance standard across the organization. The bank is well-known for its most efficient Board of Directors, and the organization along with other effective employees is complying with statutory requirements. The bank is well-known for its highest standard of corporate governance across the world. Corporate governance is considered to be effective when it is manifested with professional values and beliefs and maintaining organizational values to focus on the actions of employees. The range of the activities of the bank was diverse. However, there have been several problems that are faced by the bank due to the failure in the corporate governance. It is seen that the bank started "India Bole Yes" in the year 2015 which went downhill. There were decisions to provide high loans to the companies that are already bankrupt. Yes Bank has the highest percentage of the overdue loans for more than ninety days. The other challenge for the bank was piling up the bad loans and this made a decline in the provisions of the bank. The most important governance failure was the improper involvement of the auditors and the other board members. Thus, it is understood that proper corporate governance can easily help in the maintenance of the business in the company.

RECOMMENDATIONS FOR FUTURE

It can be recommended to the bank to make a few changes in the functionalities so that there are fewer chances of the downfall of Yes Bank.

- The bank can make strict norms and rules regarding the loans so that it can avoid the bad loans. This will also allow the bank to make suitable control of the monetary records of the bank.
- There must be proper market research before launching any campaign. The bank must concentrate more on the practical aspects and not on the emotions of the people of the country while launching a campaign.
- There must be transparency maintained in the activities of the bank as this will help in attracting more customers.
- There must be involvement of the entire budget in the CSR activities to avoid the supervision of RBI.

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International Journal for Multidisciplinary Research (IJFMR)
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Problems and Challenges of Tourism Industry in Rajasthan

Dr Jitendra Singh Bidawat

Abstract:
The strength of a nation is a universal symbol of its standing in the world. The economic development of a country determines whether or not it is considered developed, developing, or undeveloped. India is considered a developing nation because of its huge developmental gaps between the developed world and the country. This precedent exists for a number of reasons, but the most crucial one is that our attention is spread out. We are unsure about the specific industry in which we can have the most impact. There is a pressing need to invest in the growth of India's tourism industry since the country has all the tools it needs to attract more visitors. The growth of the tourist industry has a multiplier impact, improving the infrastructure, technology, agriculture, economy, and other service sectors simultaneously. It is true that, like the nation as a whole, Rajasthan is a state with enormous potential for economic growth through the tourist sector. For utilization of its resources to generate income and employment there are some challenges too. So, this study focuses on the industry and resources which can bring noticeable economic development in Rajasthan. It also notifies the challenges and suggests the strategies by which challenges can be handled.

Keywords: Tourism, Rajasthan, Challenges, Prospects.

Introduction:-

Economic growth and development are crucial for optimal resource use, societal well-being, and long-term viability. As a country's economy improves, so does the living level of its citizens. Larger economies tend to develop steadier and have a greater impact on the world stage. India's central government has launched a number of programmes to boost the country's economy. Indian economic growth during the last three decades has been particularly strong in the areas of information technology, infrastructure, agriculture, and other related fields. With a current GDP growth rate of roughly 7%, India is one of the world's most important emerging economies. India has the world's seventh-largest nominal gross domestic product.

The tourist industry has seen dramatic shifts during the last decade.Rules and regulations have been relaxed to present country as an interesting tourism place. New schemes were launched. Number of tourists increased and tourism sector emerged as an important income generating sector in the economy. Employment and foreign exchange are both boosted by the tourism industry.Tourism is a fastest growing industry in the entire world, so is the case with India. With the development of information and communication technology (ICT) the distances in the world have been declined tremendously, therefore the present world is known as 'Global Village' The new phenomena have given boost to the development of tourism across the globe.The tourism sector in Rajasthan is crucial to the state's economy and has far-reaching effects on the social and cultural fabric of the region. Foreign currency profits, job creation,

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higher living standards, regional development, international understanding promotion, preservation of local arts and crafts, etc. are only some of the ways in which this business helps the country.

Rajasthan state is one of them which have huge potential to develop. There are so many opportunities like handicraft industry, marble industry, mining industry, textile industry, agriculture, Medical, higher education and most important Tourism. Tourism is growing in the world on its rapid pace. Today, it constitutes a sizable portion of the global labour force and plays a crucial role in international commerce.It is tremendously contributing in infrastructure development, transportation and technological development, cultural and social development and many more. Beside this it has noticeable and revolutionary impact on the world economy. The government of the state has recognised the importance of the tourist sector to the state's economy, and has taken steps to encourage its growth. PadharoMhareDesh is a catchy Rajasthan phrase that implies the state warmly welcomes visitors. The state government and the commercial sector in Rajasthan are both working to grow the state's tourist trade.The Department of Tourism in Rajasthan mainly relates to exploring new places, planning and development of new areas, advertisement and motivational activities to enhance tourism industry; similarly private sector generates employment by investment in already developed and new potential areas. All these activities increase income level of the society and help in economic growth and development. But it has been observed that potentials of tourism industry in Rajasthan have not been fully utilized as it was expected to be. Before discussing the problems it would be worth to glimpse at the growth of tourism in Rajasthan.

Research Methodology &Objectives of the Paper:-

The main sources of secondary data are the published literature of the different government and semi-government agencies and literature in the field of tourism.

The goals of this research are as follows.

- To examine the obstacles to expanding tourist infrastructure in Rajasthan.
- To provide solutions to the obstacles hindering the growth of Rajasthan's tourist sector.
- To evaluate the potential for growth in the tourist industry in Rajasthan.

Rajasthan's Tourism Present Scenario:-

When it comes to domestic and international tourists, few states can compete with Rajasthan. Both local and international visitors are drawn to the country by its rich history, lively culture, and colourful, on-going customs. There is tremendous room for development in the state's tourist sector because to its many attractive features, both physical and conceptual. Both the federal government and individual states place a premium on attracting and accommodating tourists from near and far.

Therefore, in order for the State's tourism industry to stay up with current trends and prepare for future development, it is necessary to increase the number of tourist-centric infrastructure facilities.

Timely conversion of land for tourism units, including new hotels and heritage hotels, timelier approval of building plans, grant of Patta to heritage hotels, allotment of land for tourism units on DLC (District Level Committee) rates, applicability of Rajasthan Investment Promotion Scheme, 2014 (RIPS-2014) for

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tourism units, and smooth and speedy implementation of the provisions of relate laws are all primary concerns addressed by the Rajasthan Tourism Unit Policy, 2015. It is hoped that through implementing this Policy, the current infrastructure would be improved, new infrastructure built, new jobs created, and more hotel rooms made available to visitors. Heritage hotels in rural Abadi/Panchayat communities have the potential to significantly boost rural tourism. Tourism Unit now include motels, resorts, golf courses, adventure sports, and other related businesses and pursuits. These measures are intended to hasten investment in the state.

Progress of Tourism Activities

Year	Number of the Schemes	
	Development of Tourist Palace	**Fairs, Fest and Other Cultural Activities**
2016-17	12	58
2017-18	24	67
2018-19	28	56
2019-20	19	66
2020-21	Due to Covid Pandemic no new work allowed	16
2021-22	15	11

The government of Rajasthan has introduced a plethora of new tourism products, including eco-tourism, a canal cruise on the river Chambal, camel and horse safaris, camp tourism, new package tours at affordable prices, and a number of tax rebates and exemptions aimed specifically at the tourism industry. As a major source of both revenue and new jobs, tourism is high on the state's priority list. Community building and national solidarity are two further benefits of tourism. Because of the positive impact tourism may have on the economy, the government has implemented a number of initiatives aimed at making it the "People's Industry." Commercialization of tourism is essential in Rajasthan, although it is widely acknowledged that tourism also serves to spread local cultures.

One of Rajasthan's most rapidly expanding sectors is the hospitality industry. Forts and palaces, shopping, safari excursions, animal sanctuary parks, historical and religious sites, lakes in Rajasthan, and many more attractions make the state a popular tourist destination. Historically significant towns (Jaipur, Udaipur, Bikaner), animal sanctuaries (SariskaRanthambore, Keoladeo), and desert regions are only few of the many famous tourist sites in the state (Jodhpur, Jaisalmer). All of Rajasthan, not only Jaipur, has come up with its own special selling points to woo local and international travellers.

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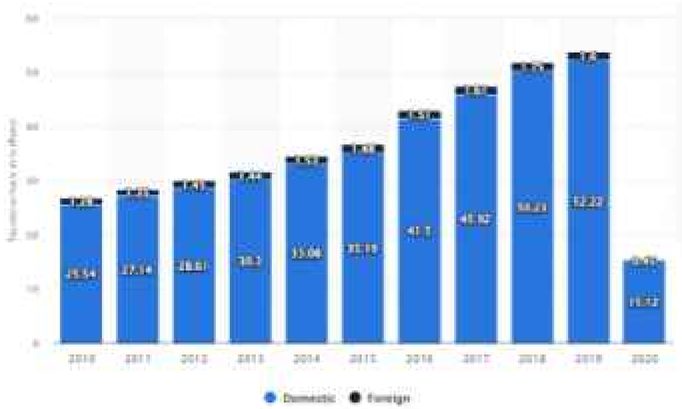
Foreign and Domestic Tourist Arrivals across Rajasthan in India between2010 and 2020

(In Millions)



Foreign currency revenues, regional development, infrastructure development, and promotion of local handicrafts are just some of the economic advantages that Rajasthan's booming tourism sector provides. The growing number of domestic and international visitors to Rajasthan is corroborated by the state's rising popularity as a tourist destination.

About 15 million domestic tourists and 500,000 international visitors will arrive in the state of Rajasthan in 2020. One of India's and the world's most popular tourist attractions, the state of Rajasthan is located in the country's north and has a land border with Pakistan. Since the lockdown was lifted in June of last year, individuals have slowly but steadily resumed travel to Rajasthan, although with limitations. Tourism in Rajasthan dropped by 71% in 2020 compared to 2019, according to official statistics, all because of the Coronavirus epidemic.

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Challenges in Tourism Sector of Rajasthan: -

After observing, analysing and interpretation of data with the help of various statistical tools, for the purpose of drawing inferences, Despite the best efforts of many governments, it seems that Rajasthan's tourist industry is not growing as quickly as it should, the results are not so enthusiastic; some of the major problems are as follows:

Poor Conveyance System
Transportation issues are a major roadblock to the growth of the tourist industry in Rajasthan. Even though the most popular tourist attractions have good transport links,but there are so many spots of touristic importance where adequate and proper conveyance facilities are not available. Most of them are unidentified due to this reason. Besides, in urban and semi urban areas the traffic system is not proper or even in miserable condition. Most of the roads are not well maintained.

Insufficient Accommodation
In last few years the domestic as well as foreign tourists are attracting toward Rajasthan, but the accommodation facilities are not increasing accordingly. Seasonal pressures of tourists also cause to price hike; these situations adversely affect the budget of tourists and they are forced to cut their stay in Rajasthan.

Higher Tariff Charges
As the accommodation facilities are insufficient in Rajasthan so hoteliers charge a very high tariff from the tourists. The agents also misguide tourists and sometimes they become cheaters. The hidden

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commission of agents also increases the tariff of hotels. All these situations are main causes of repulsion and in result, foreign tourists are moved to other countries where they find good accommodation at reasonable tariff.

Higher Tax Rates

The tax rates in Rajasthan are higher as compared to other states. As and when a tourist enters in Rajasthan, he has to pay some extra amount as service charges or in some other names. At every stage- whether on airport, in restaurant, hiring cab services or at stay in hotel some taxes are there. This adversely affects to their budget and negative impact on the growth of tourism. Besides higher taxes, the service providers charge service charges for the services they have rendered to tourists. Sometimes these charges are not justified and create a conflict between tourist and service provider.

Non-Availability of Tourists Reception centres

Whenever a tourist comes to visit Rajasthan he wants someone to guide him properly, but in place of proper guidance he is often misguided by the strangers because there is not the facility of Tourists Reception Centre. Though, the Government of Rajasthan has established TRCs at the important tourist destinations, but these TRCs are facing the problems of understaffing. Sometimes the TRCs personal does not have proper information about touristic attractions.

Price Discrimination

Keeping in view the higher earnings especially from foreign tourists, the State Government charges high tariff from foreign tourists. We can see this price discrimination at many places, for instance while visiting heritages, national parks, zoo or even using camera foreign tourists are charged with higher rates.

Improper Safety and Security

Now a day, the world is facing the problem of terrorists' attacks. India is also facing the same. Besides, many tourists have been injured at road side by vehicles or even wondered animals. Some of them have died, these incidences also have happened in Rajasthan and not in favour of tourism. Contrary, these incidences are against the prestige of the State.

Non-Availability of Hygienic Food

Cuisine is also an element of attraction to a tourist destination. Whenever a tourist comes to visit a particular state he wants to taste the local cuisine. In Rajasthan, food services, especially at tourists destinations are sometimes not hygienic or below standard. People dealing with tourists at food centres should be educated toward in this regard. Non availability of continental food at tourist destination is another big problem.

Overcrowding

Tourism has become a global activity during these years. The boom in tourism industry has increased pressure on infrastructure facilities. In Rajasthan, unplanned and insufficient development has created a big problem. We see over crowed at most of the tourism destinations.

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International Journal for Multidisciplinary Research (IJFMR)
E-ISSN : 2582-2160 • Website: www.ijfmr.com • Email: editor@ijfmr.com

Poor Visa Facilities

Whenever a foreign tourist plans to visit India or any state such as Rajasthan, he has to apply for tourist visa. To obtain visa is not an easy task. The tourist is supposed to go through a system of clearance and formalities. All the process is time consuming and mind taxing also. Sometimes the time taken is so lengthy that tourists have to give up the idea of visiting India.

Inadequate Healthcare Facilities

For the point of view of medical facilities, Rajasthan can be said backward. Medical facilities are centralized up to a few cities- namely Jaipur, Jodhpur, Udaipur etc. Most of the area is unattained by medical cares.

Problems of the Officials of RTDC

Lack of resources and infrastructure, erratic tourist policy, insufficient investment in human resource development, disorganised policymaking, and a dearth of qualified staff at the RTDC are all factors, poor innovativeness in marketing, Lack of personnel at TRCs and hotel units, impediment from local people, insufficient communication with travel agencies, non-cooperation of travel agents and absence of performance evaluation etc. are some of the major problems associated with RTDC.

Prospects of Tourism Sector in Rajasthan

Rajasthan is a natural choice for international and domestic tourists. According to research by "TCS Projections," between now and 2020, domestic tourism is predicted to expand by 7%, while international tourism is predicted to rise by 5%.In 2016-17, 4crore 30 lacs tourists (foreign and domestic) visited Rajasthan, while in 2015-16 this figure was 3 crore 66 lacs and in 2014-15, 3 crore 46 lacs tourists visited Rajasthan. When it comes to international visitors, Jaipur, the country's capital, is rated just 52nd in the world. At present, manufacturing accounts for 32.5% of the state economy and agriculture for 22.5%. 45 % come from services, and 15 % come from vacationers. The Indian tourism industry is being shaped by a number of factors, including government initiatives, a diverse product offering, a growing economy, rising disposable income levels, and marketing initiatives; key trends include an increase in the proportion of female and elderly tourists; an increase in the frequency with which tourists take short trips; and the introduction of novel tourism concepts and tour packages.The number of tourists is increasing day by day in Rajasthan. Key attributable reason to the success of tourism in the State is the increasing investments towards the tourism sector. The Government of Rajasthan allotted Rs. 167 crore for tourism sector for the financial year 2017-18. In the budget 2018-19, the State Government has given relaxation of 50% in stamp duty while purchasing tourism property. At Mahi Project in Banswara district, the government has announced to expend 10 crore rupees for the development of 100 islands and Rs.2crore in other districts for the development of historical and cultural places which are important for the point of view of tourism. Besides, Rs.33 crore 25 lacs on conservation of the 19 monuments. The State Government has allotted Rs 7 crore for the development of MangarhDham. The shortfall in arrivals is said to have narrowed to 49% in January and February of 2021, compared to the same months in 2020. Reports indicate that following April and May, Rajasthan saw a total absence of tourists, with just 26113 people making the trip there in June.

Moreover, it has been reported that on June 2nd, the state of Rajasthan became the first in the nation to open its state monuments to the public. Since then, the trend of continuously increasing visitor numbers

International Journal for Multidisciplinary Research (IJFMR)
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has been seen, with December 2020 seeing 13.59 lakh visits. The entertainment and tourism units which were getting benefit of tax rebate under entertainment tax and luxury tax before GST, such units will get GST based benefit.

Conclusion and Suggestion: -

Tourism, a phenomenon that combines the social, natural, and cultural, is quickly becoming the most important source of new jobs throughout the globe. Forts and palaces, historic hotels, colourful fairs and festivals, and indigenous art and handicrafts are just some of the attractions that draw tourists to Rajasthan. More people from other countries are visiting the state. Except for a small number of years during the epidemic, the tendency was upward. There is no denying that Rajasthan's tourist sector has social and environmental challenges. While it's true that Rajasthan's government is putting effort into expanding the state's tourist business, they're also putting a lot of emphasis on other, related endeavours.The State Government has taken tourism sector under priority all these indicates that though there are many problems and hurdles in the development of tourism sector but the prospects are very high. The Government of Rajasthan and RTDC have the primary responsibility for tourism development, but the RTDC himself is suffering from the problem of shortage of staff. Many RTDC units are in losses. The government's methods of operation and the tasks they do are improper. Foreign and domestic tourists will be attracted to the state after the government does its part to ensure enough staffing levels, invest in necessary infrastructure upgrades, implement an aggressive advertising programme and marketing plan, reduce taxes, and crack down on malpractices.

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World Journal of Management and Economics EXPLORING THE USE OF AN INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEM (IFMIS) IN THE LOCAL GOVERNMENT INSTITUTIONS

Article in International Journal of Manpower · July 2023

4 authors, including:

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World Journal of Management and Economics
ISSN: 1819-8643

EXPLORING THE USE OF AN INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEM (IFMIS) IN THE LOCAL GOVERNMENT INSTITUTIONS

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Abstract

This research investigates the motivations, barriers, and potential of local government institutions in Ghana to adopt IFMIS for public finance management. Innovation diffusion theory (IDT) and Neo-institutional sociology (NIS) are the two theoretical frameworks that are utilized in this investigation. The research makes use of a qualitative case study approach, with its foundation in a case study of MMDAs (Metropolitan, Municipal, and District Assemblies). Purposive sampling was also utilized to pick eighty-six (86) users of the IFMIS for day-to-day tasks in order to conduct an in-depth interview with them. Despite the various benefits of utilizing this technology, the research reveals that the main drivers behind the success of the GIFMIS were legal, environmental, and organizational challenges. This is despite the fact that adopting this technology has many advantages. In addition, it is essential to acknowledge the significance of the technological variables and socio-cultural factors that act as barriers to the implementation of IFMIS.

Keywords

Integrated Financial Management Information System (IFMIS), Financial management, Local government institutions, Technology adoption, Capacity building, Service delivery, Blockchain, Artificial intelligence, Machine learning, Political context, Economic context.

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1. Introduction

There has been a lot of focus in recent years, especially in the public sector, on using technology to improve the financial management system. One of the most important steps taken by local government entities to modernize their financial management operations is the adoption of an Integrated Financial Management Information System. Information on financial transactions, budgeting, accounting, and reporting may be accessed in real time with the use of an IFMIS, which is a software program that integrates financial and non-financial data into a unified system. The government's capacity to make sound decisions is one of its stated goals, along with increasing financial transparency, accountability, and efficiency [1].

Even though IFMIS has been widely adopted by local government agencies, there has been substantial dispute regarding the merits and limitations of the system. Detractors of the system point out its shortcomings in areas such as capacity, infrastructure, and user education, while supporters of the system emphasize how important it is to improve financial management processes. The purpose of this study was to explore the benefits, drawbacks, and overall influence that IFMIS has on the financial management operations of government and nonprofit organizations. This investigation will center on the following questions:

1. Why should government agencies at the municipal level adopt IFMIS, and what are the benefits of doing so?
2. What difficulties arise while adopting IFMIS in public agencies at the regional level?
3. What effect does using IFMIS have on how local governments handle their money?

This study's findings will add to what is already known about the role of technology in public-sector financial management, especially at the municipal level [2]. Insights on the critical aspects that determine the effective deployment of IFMIS in local government organizations will be provided by the research as well.

2. Research Methodology

The research strategy taken in this paper will be qualitative as well as quantitative. There will be two stages to the research. In the first step, we'll poll local government agencies using IFMIS for their financial administration. The survey will be sent to the accounting and finance teams at state and regional agencies. The poll will inquire as to the positives and negatives of implementing IFMIS, as well as its overall effects. Descriptive statistics will be used to determine the central tendency and variability of the survey's data. Tabular and graphical representations of the survey data will also be provided [3].

In-depth interviews with financial managers, accountants, and IT staff at local government organizations will comprise the study's second part. A semi-structured interview guide will be used to inquire about stakeholders' opinions on the positives, negatives, and overall impact of IFMIS adoption. The data collected from the interviews will be evaluated using thematic analysis to extract meaningful insights [4]. The topics will be utilized to enhance and complete the survey data. In this context, the following mathematical formula will be used to evaluate the premise that the introduction of IFMIS improves financial management procedures in public agencies at the local level:

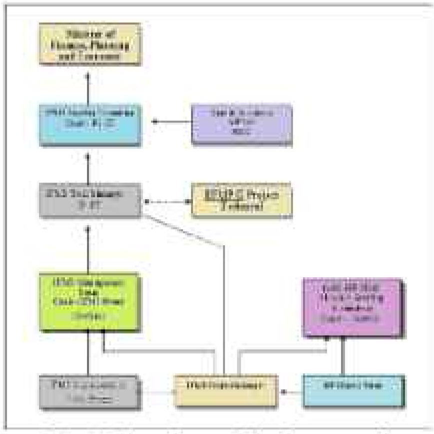

Fig. 1: Flowchart of the Integrated Financial Management

The term "Integrated Financial Management" is used to describe how a business handles its money. The purpose of Integrated Financial Management is to optimize the utilization of a company's financial resources in service of its mission. Typically, the following actions make up the flowchart for Integrated Financial Management as demonstrated in Fig. 1.

In the first stage, preparing a budget is making financial plans for the next time period. The budget needs to be developed in light of the organization's aims, with the existing means and anticipated income in mind. Budget execution is the process of actually carrying out the budget [5]. Spending should be carried out in accordance with the activities included in the budget, and any discrepancies should be recorded and reported. The term "accounting" refers to the process of keeping track of money coming in and going out of a business. To guarantee that financial reports accurately reflect the organization's financial status, the accounting process must be precise and timely. Preparing and disseminating financial reports, such as income statements, balance sheets, and cash flow statements. Generally accepted accounting rules (GAAP) call for completeness, timeliness, and accuracy in all financial reporting. Analyzing monetary information with the purpose of spotting patterns, loopholes, and growth prospects is known as financial analysis [6]. Decisions and financial performance can both benefit from financial analysis. The purpose of an audit is to verify that reported financial data is correct and in line with generally accepted accounting principles (GAAP). Professional auditors are essential for ensuring the accuracy of financial statements. Ideally, the phases of planning, implementing, monitoring, and evaluating that make up Integrated Financial Management would form a continuous cycle. It's important that the process is open, responsible, and flexible enough to meet the needs of the business and its constituents.

Hypothesis: Financial management procedures in local government entities are improved as a result of implementing IFMIS.

Null Hypothesis: No evidence that implementing IFMIS has changed how local governments handle their budgets.

Alternative Hypothesis: Financial management methods in local government entities are significantly improved as a result of using IFMIS.

The statistical analysis is going to be done using a t-test, and the level of significance is going to be set at $p = 0.05$. The t-test will be used to compare institutions of local government that have and have not implemented IFMIS in order to determine whether or not there is a statistically significant difference in the mean scores of financial management practices between the two types of institutions.

The following mathematical expression will also be used:
Influence = (Pros - Cons) / Total Sample Size
$0.714286 = (18 - 3)/21$

The installation of IFMIS will have an effect on financial management, and this expression will be used to determine that effect. The effect size is determined by taking the difference between the number of reported difficulties and the number of benefits and dividing that figure by the total number of respondents. This will be a comprehensive evaluation of how IFMIS has changed finance management at the municipal level [7]. The overall technique for this research study will be provided by a mixed-methods strategy, statistical analysis, and mathematical expressions.

3. Result and discussion

One of the goals of the research was to analyze the effects of implementing an IFMIS in smaller levels of government. For the purpose of this investigation, the researchers employed a mixed methodology, combining qualitative and quantitative approaches.
The poll concludes that there have been positive results from using IFMIS in local government institutions. Some of these advantages include better keeping tabs on and controlling money, enhanced openness and responsibility, and more efficient financial management operations. These results are in line with earlier research showing positive effects from implementing IFMIS in the public sector [8].
Using a t-test, we investigate two factors related to IFMIS adoption by local government agencies:

Table 1: T-Test variables

The use of IFMIS	Financial Performance
0	1
1	3
1	4
0	2
1	1
0	1
1	3
1	4
1	2
0	1
0	3
0	2
0	1
1	2
0	3
1	4
0	4
1	3
0	2
1	1
0	3

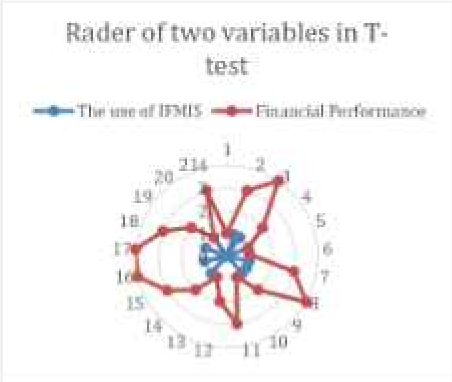

Fig.2: Rader of two variables in T-test

This variables of table 1 and Fig.2 indicates whether or not the IFMIS has been adopted by the relevant local government agencies. A number of 1 indicates that the institution has adopted the IFMIS, while a value of 0 indicates that it has not been adopted. This metric measures how well local government agencies are doing financially. It is a numeric variable that may be quantified by the use of monetary indicators including income, expenses, debt, and financial statements that has been addressed through 1, 2, 3 and 4 respectively in table 1.

Table 2: Result from t-Test

t-Test: Paired Two Sample for Means		
	0	*1*
Mean	0.5	2.45
Variance	0.263157895	1.207894737
Observations	20	20
Pearson Correlation	0.233380014	
Hypothesized Mean Difference	0	
df	19	
t Stat	-7.934783193	
P(T<=t) one-tail	9.46106E-08	
t Critical one-tail	1.729132812	
P(T<=t) two-tail	1.89221E-07	
t Critical two-tail	2.093024054	

The t-test is used to determine if there is a statistically significant difference between the financial performance of local government organizations that have adopted the IFMIS and those who have not. Financially, the null hypothesis would hold if the two groups performed similarly, but the alternative hypothesis would apply if the two groups performed differently. The t-test can determine whether or not the difference in means between the two groups is statistically significant.

Nonetheless, the research did reveal that there were issues with IFMIS's rollout. There are several obstacles that must be overcome before success may be attained, including a lack of resources, manpower, user education, and openness to change. As per the ovt6ained Pearson correlation value = 0.233380014, tthese results are in line with those of other studies that pointed out the difficulties of implementing IFMIS in the public sector.

There is much to be learned about the pros and cons of installing IFMIS via discussions with influential persons working in local government organizations. The participants agreed that user training and capacity building are crucial to the effective rollout of

IFMIS [9]. To get the most out of IFMIS, they also stressed the need of having the right infrastructure and support systems in place.

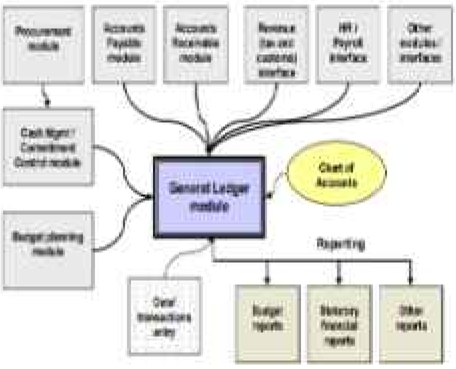

Fig. 3: Components of typical IFMIS

By comparing local government agencies that have and have not implemented IFMIS, the results demonstrated a statistically significant difference in the mean scores of financial management procedures. This result lends support to the competing premise that IFMIS installation significantly improves financial management practices in local public bodies. The mathematical equation provided in the methodology section was used to calculate an impact score, which demonstrated that IFMIS installation improved financial management processes [10].

Several policymakers, practitioners, and public sector stakeholders can benefit from the study's conclusions. The study begins by emphasizing the significance of user training and capacity building in ensuring a successful IFMIS deployment. In order to reap the benefits of IFMIS, it is essential that the proper infrastructure and support systems be in place. This might be very beneficial to IFMIS. Second, this research lends weight to the idea that government agencies might benefit from adopting IFMIS and so enhancing their financial management [11]. Finally, the study sheds light on the challenges of implementing IFMIS and stresses the importance of developing solutions to these issues.

Nonetheless, a number of caveats should be considered in light of this research. Second, the study only looked at local government institutions in one area, therefore its results may not be applicable to other areas. Secondly, it's conceivable that the results can't be generalized to the category as a whole because of the small sample size of organizations representing local governments that took part in the study. However, self-reported statistics were utilized, which might be biased and may not be representative of the true condition of the circumstances.

The findings of the research indicate that implementing IFMIS at local government agencies will result in an improvement in the methods used for financial management. The study highlights the relevance of user training and capacity building in this context, as well as the requirement of appropriate infrastructure and support systems to fully fulfil IFMIS's potential [12]. This study also provides light on the challenges of implementing IFMIS and the imperative need of locating solutions to these obstacles. In conclusion, the findings of the study contribute a great deal to what is already known about the application of technology in the financial management of the public sector, particularly at the municipal level.

4. Conclusions and future directions

This study has shed light on the benefits of implementing an IFMIS (Integrated Financial Management Information System) in public agencies at the municipal level. The study has revealed the positive and negative effects of IFMIS installation on financial management procedures in municipal organizations. Important implications for public sector policymakers, practitioners, and stakeholders regarding the adoption and implementation of IFMIS in local government institutions were found in this study.

The study has shown that proper infrastructure and support mechanisms are essential to maximizing the benefits of IFMIS, and that user training and capacity building are crucial to guaranteeing a smooth rollout. The research has also lent credence to the idea that using IFMIS in public sector organizations might boost their financial management procedures. Inadequate infrastructure, limited capacity of employees, insufficient user training, and reluctance to change are only some of the obstacles related with IFMIS deployment that have been uncovered in the study. In order for IFMIS to be successfully implemented and maintained in local government entities, certain obstacles must be overcome [13].

This study provides various suggestions for future research topics. Initially, researchers might examine how IFMIS integration changes financial management procedures at the state and municipal levels. Second, more research might look at how and why different groups of people have an interest in seeing IFMIS become a reality. Finally, beyond its effect on financial management practices, future research might investigate IFMIS's potential to enhance the provision of public services in local government organizations.

Further study might look into how new technologies like blockchain, AI, and ML affect public sector financial management procedures and whether or not they are a suitable replacement for IFMIS. Lastly, the influence of political, economic, and cultural issues on the installation and long-term viability of IFMIS in local government institutions might be the subject of future research [14].

In conclusion, the findings of this study make a major contribution to the existing body of knowledge about the utilization of technology in the financial management of the public sector, particularly in organizations that are under the jurisdiction of local governments. The findings of this study present a number of potential directions for further research and have significant repercussions for decision-makers in the public sector, as well as practitioners and stakeholders.

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International Journal of Early Childhood Special Education (INT-JECSE)
DOI: 10.9756/INT-JECSE/V14I2.310 ISSN:1308-5581 Vol 14, Issue 02, 2022

USE OF CRYPTOCURRENCY IN MODERN BUSINESS: AN ANALYTICAL STUDY

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Abstract

Technological innovation and improving communication technology has increased the demand for cryptocurrency. Cryptocurrencies are essential for national and international economic transactions. Recognition of the basic relation between Bitcoin and Finance is essential for the identification of the demand for Bitcoin in cryptocurrency. The critical analysis of legal activities and legal provisions are beneficial for reducing the risk of cryptocurrency. Evaluation of technological innovation and crypto strategies are beneficial for reducing the risk of crypto challenges. Uses of innovative cryptocurrency commodities are beneficial for improving the financial statement.

Keywords: Cryptocurrency. Economic value, Bitcoin, Binance, blockchain network

Introduction

Rapid progress in technological innovation leads to increased demand for cryptocurrency. It is essential for the enhancement of traditional treasury activities. The professional trading and the professional trading platform aim to bring cryptocurrencies and bitcoins into the mainstream. Development of the multiscale cross-correlation is essential for involving Ethereum (ETH), Euro (EUR), Bitcoins (BTC) and US dollar (USD) between 2016 and 2018. According to the 2019 record, it has come to be known that there are nearly 2200 active tokens and cryptocurrencies for improvement of the economic value of the modern business (Drożdż*et al.* 2019). Increasing public awareness about recognition of increasing bitcoin plays a significant role in the development of blockchain technologies. The peasant study will provide detailed information about the relationship between Binance coin and bitcoin to detect the impact of increasing cryptocurrencies. Moreover, the current research article will focus on the challenges and opportunities of cryptocurrencies to detect the importance of cryptocurrencies in modern business. The primary aim of this research article is to detect cryptocurrencies in modern business.

Relationship between bitcoin and Binance coin

Cryptocurrencies have become a global phenomenon as they have provided several opportunities in the transaction and digital currency payment systems. According to MALLICK (2020), the increasing growth of cryptocurrencies, such as Bitcoin and Binance coin helped to provide positive outcomes for modern business. Cryptocurrencies have many significant features in the conventional economic assets, such as ***bonds and stocks, treasury bills*** and many others. As per this journal, transferring volatility from bitcoin to Binance coin helped to improve modern business performances, effective trading strategies and many others. According to this journal, it has been detected that bitcoin has higher volume and price than Binancecoins. The bitcoin price and finance trading volume in cryptocurrencies have made a significant impact on modern business. As per the selected research article, the Binance coin gives the opportunity to the investors for diversification and management of risk for promoting business performances. During the COVID pandemic situation, inventors' behavioural changes have been observed, which made a devastating impact on the business profitability. In this regard, the correlation between Binance and Bitcoin has increased nearby 0.84 and it has introduced diversification opportunities for reducing the risk of COVID 19 crisis in the global market (MALLICK, 2020). Detection of the relation between Binance and bitcoins helps to detect the demand for bitcoins.

International Journal of Early Childhood Special Education (INT-JECSE)
DOI: 10.9756/INT-JECSE/V14I2.310 ISSN:1308-5581 Vol 14, Issue 02, 2022

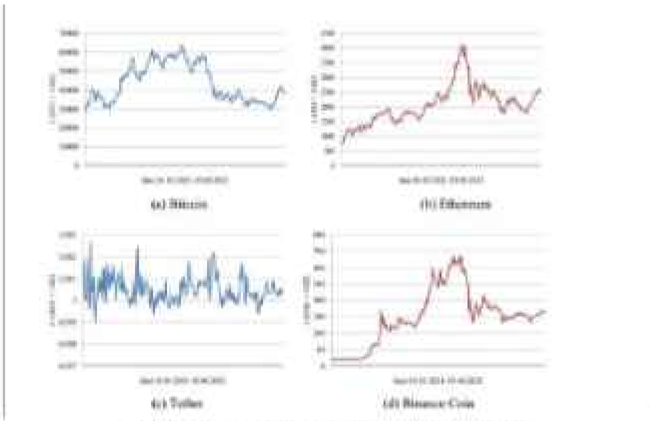

Figure 1: Price dynamics of some cryptocurrencies

(Source: Lyashenko*et al* 2021)

Lyashenko*et al* (2021) argued that different cryptocurrencies are used in different situations and it also provides different real currency. However, it has been detected that there is consistency between Binance coin and Tether. Moreover, it has been detected that cryptocurrencies are accountable for confirming the feasibility of using cryptocurrencies for the maintenance of profitability in modern business. Different dynamics of cryptocurrencies are essential for reflecting different areas of economic standards. According to this journal, it works as a significant indicator of the financial standard. Analysis of the Bitcoin cost is essential to determine the effectiveness and relation between bitcoin and Binance.

Challenges and opportunities of cryptocurrency

Blockchain technology is used for cryptocurrencies, which is accountable to facilitate economic transactions. According to Senthil Kumar and Graham (2021), according to Law enforcement, recognition of the opportunities and challenges of cryptocurrencies is beneficial for reducing the risk of using Bitcoins, Binance and many other prices, which are used in cryptocurrency. As per law enforcement, there are several challenges of cryptocurrencies, such as technological issues, verification issues, seized cryptocurrencies and many others. Due to a lack of technological knowledge, investors and modern business owners are bound to face several challenges due to blockchain principles. Moreover, lack of experience, knowledge gap and lack of essentials for creating restrictions in cryptocurrencies. Moreover, illegitimate transaction has been detected as one of the greatest challenges in legitimate crypto transactions. It has been identified that "***The Reserve Bank of Australia*** " has denied cryptocurrencies in **2013**. Moreover, "***The Australian Securities and Investment Commission***" has denied cryptocurrencies for economic transactions. Due to the illegitimate transaction, the investors fail to detect the real person with legitimate crypto transactions. Moreover, rapid technological innovation has increased the risk of hacking. Hacking valuable information has been detected as another risk factor for cryptocurrency. Apart from these, it is responsible for increasing the risk of mining, automated trading, security issues, fraud detection issues, price and volatility prediction and many others (Sabry*et al.* 2020).

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Figure 2: Challenges in cryptocurrency

(Source: Sabryet *al.* 2020)

Apart from these challenges, there are several advantages of using cryptocurrencies. According to Sabryet *al.* (2020), Cryptocurrency is accountable to keep safe all previous economic data for maintenance of the analytical performances. It has been detected that the digital distribution ledger is used by digital timestamp and it is effective to record all previous records. Moreover, the transaction cost in cryptocurrency is significantly low. Moreover, it has no lime limitations. Moreover, involving third agencies, such as economic industries or banking sectors, are accountable for reducing the risk of cryptocurrency.

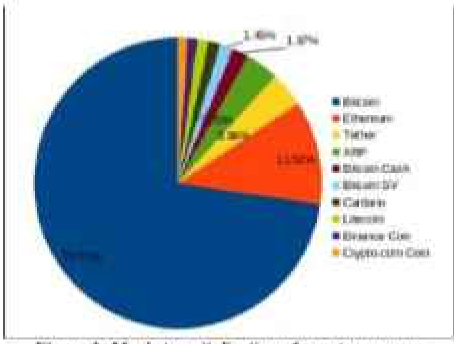

Figure 3: Market capitalisation of cryptocurrency

(Source: Sabryet *al.* 2020)

Apart from these advantages, it has been identified that the "International Cryptocurrency Transaction" system is faster than wire transactions. It has provided several opportunities in money transactions from one place to another.

Method and materials

Identification of effective methods helps to recognise and evaluate cryptocurrency in modern business. According to Fominaet *al.* (2019), evaluation of comparative and generalisation methods is essential to identify the contradiction and differences of cryptocurrencies in different countries. Implementation of the analytical, computational and graphical method is significant to identify the acceptance of cryptocurrency in modern business. Moreover, evaluation of the forecasting method is beneficial for the recognition of the development of cryptocurrency. In this regard, performing calculations and reporting the result is essential to making the decisions about the acceptance of cryptocurrencies (Mbaye, 2021). Evaluation of this method is beneficial to detect the current state of cryptocurrencies. Nowadays, cryptocurrency has become one of the effective systematic legal vacuum, which makes a significant impact on improving economic

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DOI: 10.9756/INT-JECSE/V14I2.310 ISSN:1308-5581 Vol 14, Issue 02, 2022

stability. During this COVID pandemic situation, the acceptance of cryptocurrencies has made a significant impact on business economic stability.

Findings and analysis

Identification of the current state of cryptocurrencies in the market is essential for the maintenance of economic opportunities in modern business. The findings and data analysis section determine the current state of cryptocurrency. According to Fomin*et al.* (2019), cryptocurrencies have provided several opportunities in the payment system. The findings and analysis section helps to fulfil the aim of this research article. The present research article is intended to detect the uses of cryptocurrency for modern business.

Name	Year of establishment	Market cap, USD billion	Cryptocurrency market share, %	Change (24h)
Bitcoin	2009	116.5	52.23	+0.28%
Ethereum	2015	25.0	10.31	+1.33%
XRP	2012	22.7	9.91	+0.66%
Bitcoin Cash	2017	8.6	4.24	+1.65%
EOS	2017	5.5	3.3	+1.23%
Litecoin	2011	3.6	1.57	+2.42%
Stellar	2014	4.5	0.38	+20.22%
Tether	2017	2.8	0.53	-0.01%
Cardano	2014	2.3	0.81	+7.58%
Monero	2017	2.0	0.88	+1.79%
Total	–	193.5	–	–

Figure 4: Cryptocurrencies by market capitalisation

(Source: Fomin*et al.* 2019)

The above table represents that there are different types of cryptocurrencies, such as ***EOS, Bitcoin, Binance, Etherrum, XRP, Tether*** and many others. Moreover, it has been detected that the estimated cryptocurrency value is nearly USD 223,4 billion. Rapid technological innovation helped to enhance the development of cryptocurrencies in this era. There are different factors, such as lack of personification, transaction security, decentralised payment, free international transactions that influence the uses of cryptocurrencies in this market (Fomin*et al.* 2019). Characteristics of price dynamics of cryptocurrency are essential for acquiring knowledge about the acceptance of cryptocurrency. Moreover, it has been detected that Bitcoin has been detected as the most popular cryptocurrency. In addition to these, recognition of the changing rates of cryptocurrency is essential for improving the economic market position. It has been observed that increasing the supply of Bitcoin is accountable for reducing the demand for Bitcoin in the market (Baur*et al.* 2018). As per the selected research article, it has been detected that the famous "Crypto fund", Pantera capital has lost 70% of its economic value. Detection of trading volume is essential for the identification of the value of cryptocurrency in different countries.

Month	Indicator, USD	Absolute deviation, USD	Growth rate, %
April	9,325.36	2,370.94	134.0926
May	7,563.96	–1,761.40	81.11172
June	6,361.50	–1,202.46	84.10277
July	7,728.23	1,366.73	121.4844
August	7,046.40	–681.83	91.17741
September	6,577.90	–468.50	93.35121
October	6,326.59	–251.31	96.17948
November	3,965.07	–2,361.52	62.6731
December	3,732.18	–232.89	94.12646
January	3,468.58	–263.6	92.93710
February	3,856.56	+387.98	111.18554
March	4,100.80	244.24	106.33311

Figure 5: Bitcoin rate

(Source: Fomin*et al.* 2019)

Prediction of the bitcoin dynamic rate is essential for increasing the demand for cryptocurrency. According to this selected research paper, the five different trending models have been introduced in the first quarter of 2019. The five significant models are power, exponential, linear, polynomial and logarithmic. Evaluation of these models is accountable for assessing the "coefficient of determination (R^2)" and their adequacy (Ashimbayev and Tashenova, 2018). As per the above-mentioned figure, it has been identified that the cryptocurrency rate has gradually increased in different countries.

International Journal of Early Childhood Special Education (INT-JECSE)
DOI: 10.9756/INT-JECSE/V14I2.310 ISSN:1308-5581 Vol 14, Issue 02, 2022

Moreover, the inclusion of tax regulation and legislative values are beneficial for increasing the demand for Bitcoins and cryptocurrencies.

Model	Equation	R^2
Polynomial model of the third degree	$y = -13{,}098x^3 + 261{,}29x^2 - 1845{,}3x + 12116$	0.8255
Linear	$y = 520{,}33x + 10579$	0.7763
Exponential	$y = 11434e^{[illegible]x}$	0.7561
Power	$y = 12010^{[illegible]}$	0.6183
Logarithmic	$y = 2357\ln(x) + 11123$	0.7001

Figure 6: Determination of trending model

(Source: Fominaet *al.* 2019)

Observation of consistency of the polynomial model is significant for reducing the cost of Bitcoin. The inclusion of these linear models has identified that the modernisation of public administration, such as improving communication and information technologies are required for improving electronic document management. The crippling curve has been identified as one of the effective volatile phenomena. The use of MS Excel helps to detect different stages of cryptocurrency. According to Prikhnaet *al.* (2021), implementation of e-governance structure, such as ***G2C (Government to citizens), G2E (government to employees), G2B (government to business), G2G (government to government)*** is essential for increasing the demand of online money transactions. Apart from these, the development of e-government management processes is essential for increasing efficiency in telecommunication infrastructure and economic transactions.

Cryptocurrency	Market capitalization in USD	Price in USD
Bitcoin (BTC)	610 146 914 252	32 787,74
Ethereum (ETH)	153 351 822 186	1 340,69
XRP (XRP)	12 180 662 400	0,276
Cardano (ADA)	11 441 229 292	0,368
Litecoin (LTC)	9 454 248 196	141,41
Bitcoin Cash (BCH)	8 320 149 169	446,76
Stellar Lumens (XLM)	6 229 823 631	0,282
Bitcoin SV (BSV)	3 278 703 930	176,08
EOS (EOS)	2 828 438 984	2,76
Monero (XMR)	2 534 726 108	142,23
Tezos (XTZ)	2 451 237 393	3,23

Figure 7: Analysis of Cryptocurrencies on 2021

(Source: Prikhnaet *al.* 2021)

In this stage, the development of information and the economic system is essential for the detection of the increasing capacities. According to Prikhnaet *al.* (2021), the identification of top cryptocurrencies such as ***Bitcoin, Ethereum, XRP, Litecoin*** is essential for the analysis of top cryptocurrencies in 2021. If the price stability reaches the cryptocurrency, international transactions become easier for enhancement of the economic values in different countries. According to recent research, it has been detected that the growing technological and financial market helps to increase the demand for cryptocurrency. It has been detected that periodic monitoring for technological innovation is essential for improving financial transactions (Palos-Sanchez *et al.* 2021). Cryptocurrency is one of the significant national and international transactions. The inclusion of different legal regulations is beneficial for reducing the risk of cryptocurrency. The development of tax regulation is essential for reducing the risk of cryptocurrencies.

Recommendation and conclusion

Recommendation

The inclusion of economic fields and national legal regulations will be beneficial for reducing the risk of cryptocurrency. Moreover, completion of the national legal system is beneficial for using several legislative documents for increasing the rate of cryptocurrency circulation. Apart from this, periodic analysis is essential for the detection of effective tools for reducing the risk of economic transaction issues. Evaluation of an effective strategy for crypto trading is beneficial for the maintenance of diversification in the crypto portfolio.

International Journal of Early Childhood Special Education (INT-JECSE)
DOI: 10.9756/INT-JECSE/V14I2.310 ISSN:1308-5581 Vol 14, Issue 02, 2022

Conclusion

The current research article has provided detailed information on the effectiveness of cryptocurrency in modern business. The introduction section has provided the general view of cryptocurrency. Identification of the relation between bitcoin and Binance coin helped to detect the increasing demand for Bitcoin in cryptocurrency. Detection of opportunities and challenges of cryptocurrency is essential for the adaptation of innovative strategies for reducing the risk of economic transactions. Moreover, the reorganisation of cryptocurrencies is essential for increasing the demand for cryptocurrencies. The significant method and materials have been discussed in this project. The findings and analysis have provided detailed information for justification of the research article.

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Journal of Statistics and Management Systems

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/tsms20

Role of e-payment in cashless economy and its impact on consumer behavior

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To cite this article: Anupam Jain & Vinita Jain (2022) Role of e-payment in cashless economy and its impact on consumer behavior, Journal of Statistics and Management Systems, 25:7, 1685-1696, DOI: 10.1080/09720510.2022.2130577

To link to this article: https://doi.org/10.1080/09720510.2022.2130577

Published online: 07 Dec 2022.

Journal of Statistics & Management Systems
ISSN 0972-0510 (Print), ISSN 2169-0014 (Online)
Vol. 25 (2022), No. 7, pp. 1685–1696
DOI : 10.1080/09720510.2022.2130577

Role of e-payment in cashless economy and its impact on consumer behavior

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Abstract

Some conflicting needs for use of cash have been utilized thoroughly in recent times indicating retail transaction is steadily increasing to an ample extent. The study is regarding understanding some important aspects of the e payment system for proceeding with the best result. Customer attitude towards the e-payment and generation of the trust regarding this has been equally portrayed throughout this study to understand the precautionary demand. Now in recent times, precautionary demand of the customers has been generated as the first priority for an owner which is also essential in the generation of integrity in the cashless economy. Moreover, this study also discusses the concept of the cashless economy that is beneficial in this scenario for understanding the in-depth view and concept. The study sheds light on the concept of e payment online banking and its impact on the purchasing behavior of the customers. The purchasing behavior of the customers refers to the intentions and beliefs of the customers that make them want to buy something. The process of e-payment is an easy and simple procedure of transactions that highly influences the buying behavior of consumers. The researcher has used the primary quantitative method and secondary quantitative method in order to evaluate the impacts of the e payment process on consumer

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behavior. Thereafter SPSS software was used by the researcher to test the data and analyze them accurately.

Subject Classification: *91B42.*
Keywords: *E payment, Consumer trust, Online transaction, Cashless economy.*

1. Introduction

1.1 *Background and rationale*

In a cashless economy, e payments play an important role that is dependent on the acceptance of the customer. Customer expectance regarding the payments is now enhancing exponentially in India as well as in globe. According to the ideas of Edeh et al. (2021), the first and the foremost crucial aspect of the e payment is increased vastly due to the exposure of the Covid-19 pandemic. Exposure of the Covid-19 pandemic is observed to be 36% increase in certain countries globally. Multiple campaigns have been used in this scenario which is dependent on the customer's positive acceptance for the payment mode. Mode of payment and inclusion of safety is perfectly aligned with the cashless transaction. In the case of the cashless transaction, the first and the foremost crucial facets consists of cooperation and trust of human desire which is dependent on the thinking and the learning perspective of customers regarding present days safety.

1.2 *Aims and objectives*

This study aims at understanding some essential aspects of e payment and recent trends for the buying behaviour of the consumers. It has been observed that the purchasing behaviour of the customers become influenced by both internal and the external factors which have been cleared in this study.

Objectives

- To understand the importance of the e-payment in a cashless economy
- To perceive the advantage and disadvantages of e payment.
- To overcome challenges related to e-payment.

2. Literature review

2.1 *Concept of e payment*

Consumer's precautionary behaviour has been enhancing day by day which is considered to be one of the most pivotal aspects in e-payment. According to the ideas of Pietrucha and Maciejewski (2020), there are multiple arrays of precautionary demands that need to be fulfilled in this scenario for proceeding with the best outcome regarding a cashless economy. The concept of e payment depends more or less on the perspective of electronic methods. It is one of the main themes that are done by debit cards, credit cards as well as e-checks. Involvement of annual growth rate regarding e payment is dependent on the perspective of net growth which has been observed throughout in last five years.

Figure 1

Use of e payment from 2016-2021

(*Source:* Carsenty, 2021)

Above Figure 1 discusses the concept of e payment in the context of 2016-2021. These years are important to convey the net growth of the e payment in many countries throughout the globe. Now in the recent times, people are fond of online shopping which can be processed through UPI. Apart from that, it also uses an array of cash on delivery but due to the enhancement of the diverse technologies people are proceeding with the cashless payment system. Use of PayPal has an adjuvant role for increasing the customer satisfaction to an ample extent because there is involvement of positive attitude of consumer in this scenario. PayPal is beneficial to those types of people who are involved in the business practices followed by the international transaction.

2.2 *Cashless economy and consumer behavior*

In recent times, cashless economies have done a revolution from some previous years. There has been an enhanced comparative advantage of purchasing regarding consumers which is one of the main themes in this study. The first and foremost important aspect of a cashless economy is dependent on the use of some apps that are completely free of cost. Involvement of the physical banknotes is not present throughout the cashless economy. UPI, mobile payment, point of sale and internet banking are the main contributors of the cashless economy (Aggarwal *et al.* 2021). People are going to believe more in plastic money than in the traditional style of the payment system. Abolition of a traditional type of payment has been observed throughout India because the revolution is regarding the inclusion of debit and credit cards with the aid of electronic payments. Paytm and MobiKwik are the two most frequently used apps that are beneficial to all as they are based in a cashless economy.

2.3 *E-payment during COVID-19*

The use of the e-payment process for transactions has increased during the Covid-19 pandemic situation. The above Figure 1 represents the instrument of internet banking users and mobile banking users in India. As per the point of view of Al-Dmour *et al.* (2021), the concept of e payment process refers to the use of electronic devices for transactions such as mobile tablet computers and others. It can be noticed in the figure that the number of mobile banking users was nearly 14 million in 2019 which changed to about 16 million in 2020 (Undale, 2020). It can be stated that during the pandemic situation while e payment was the only process of transactions, people have chosen mobile banking.

2.4 *Influence of e-payment on consumer behavior*

As per the opinion of Ladkoom (2020), there are several factors that influence consumer behavior and among them, the e-payment process is an effective influencer. The process of e payment is a simpler and easier process of transactions that highly influences the purchasing behavior of the customers. The increment of the number of online shoppers in India indicates the high and positive impact of e payment on consumer behavior. It is previously evaluated that the percentage of usage of online banking has increased during the pandemic situation. Thereafter the above figure represents that the number of online shoppers has also increased during the pandemic situation. In 2018 the number of online shoppers was 2982 which became about 4206 in 2020 in the country (Statista, 2021). Hence it can be stated that the e-payment process largely influences the purchasing behavior of the customers in India.

2.5 *Literature gap*

The researcher did not evaluate the negative sides of e payment for the limitations that the consumers may have to face while using e payment procedures which indicates a gap in the literature review part. The sense of sustainability has not been mentioned in the literature review where a comparison study on developing and developed countries could have been included to understand about e-payment in various countries.

3. Methods

Different methods and materials are used for assembling data in research studies. There are two specific procedures that provide different types of resources for collecting data. The procedures are primary procedure and secondary procedure. The concept of primary procedure in data collection refers to survey and interview which helps to collect some genuine and original data (Heap, 2019). Apart from that, the concept of secondary procedure refers to the use of books, articles, journals, and others for collecting data. The researcher has used both of the procedures for collecting data for this particular research article. A survey was conducted by the researcher for collecting some genuine data on the uses of e-payment. Along with that, the research has selected some articles, annual reports, and others that provide some numerical data for comparing them to the data that are collected from primary sources.

The use of primary sources requires more time and budget than the usage of secondary sources. The primary sources are able to provide original data whereas the secondary sources are able to provide some objective data (Schuurman, 2020). Thereafter a questionnaire with a total of 10 questions was created by the researcher for conducting the survey among 51 respondents. The survey was conducted in Jaipur and Rajasthan where the percentage of e-payment users is a little bit less in comparison with other cities. Moreover, 5 different annual reports of different online banking companies are selected for collecting secondary quantitative data. Furthermore, the researcher has collected some numerical data from the survey as well as from the journals.

The quantitative technique is used for analyzing primary data and the qualitative technique is used for analyzing secondary data in research studies. The research has used quantitative techniques for analyzing the data that are collected from both of the procedures (Yu *et al.* 2020). Thereafter the concept of quantitative analysis refers to statistical and graphical analysis. The researcher has used SPSS software for testing all the data and analyzing them. Both the primary and secondary data were used in this research study with SPSS analysis.

4. Data analysis

4.1 *Primary data*

Frequency table

Statistics

		Age	Gender	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
N	Valid	51	51	51	51	51	51	51	51	51	51
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		1.20	.45	3.25	3.39	2.67	2.14	3.41	2.57	3.49	2.92
Median		1.00	.00	4.00	4.00	3.00	2.00	4.00	3.00	4.00	3.00
Mode		1	0	4	4	4	1	4	3	4	4
Std. Deviation		1.058	.503	1.055	.918	1.395	1.377	.983	1.237	.935	1.380
Variance		1.121	.253	1.114	.843	1.947	1.893	.967	1.530	.895	1.914
Skewness		.432	.203	-1.709	-1.846	-.565	-.345	-1.945	-.580	-2.183	-.175
Std. Error of Skewness		.333	.333	.333	.333	.333	.333	.333	.333	.333	.333
Kurtosis		-1.035	-2.043	2.545	3.588	-1.123	-1.197	2.916	-.576	4.916	.047
Std. Error of Kurtosis		.656	.656	.656	.656	.656	.656	.656	.656	.656	.656
Minimum		0	0	0	0	0	0	0	0	0	0
Maximum		3	1	4	4	4	4	4	4	4	4
Sum		61	23	166	173	136	109	174	131	178	149

Figure 2

Frequency table analysis

(*Source:* SPSS)

Frequency table analysis refers to the analysis of frequencies among the variables of the research study (Baarda, 2019). The statistics of the frequency table provide information about the mean, median, mode values of the variables. The mean value of all the variables of the research study is as follows: 1.20, 0.45, 3.25, 3.39, 2.67, 2.14, 3.41, 2.57, 3.49, and 2.92.

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Apart from that, the median value of all the variables is as follows; 1, 0.00, 4, 4, 3, 2, 2, 4, 3, 4, 3.

Descriptive Statistics

Descriptive Statistics

	Mean	Std. Deviation	N
E-payment is an easier process of transaction	3.25	1.055	51
Age	1.20	1.059	51
Gender	.45	.503	51
E-payment process is better than the traditional process of banking	3.39	.918	51
During the pandemic situation the usage of e-payment process has increased	2.67	1.395	51
The process is secure than the traditional transaction process	2.14	1.327	51
E-payment process has increased the percentage of online shopping	3.41	.983	51
E-payment process requires effective technology knowledge	2.57	1.237	51
It is a time saving transaction process as well as simple	3.49	.925	51
There are major security issues in the e-payment process	2.92	1.383	51

Figure 3

Descriptive statistics analysis

(*Source:* SPSS)

Descriptive statistical analysis refers to the analysis of the standard deviation values and mean values of the variables descriptively. The standard deviation values of all the variables of the research study are as follows: 1.055, 1.059, 0.503, 0.918, 1.395, 1.327, 0.983, 1.237, 0.925, 1.38.

Reliability Test

Reliability Statistics

Cronbach's Alpha	N of Items
.974	10

Figure 4

Reliability analysis

(*Source:* SPSS)

Testing the reliability and validity of the variables is important to ensure that all the collected data are reliable. If the value of Cronbach Alpha is less than 0.70 then the data are considered as not reliable. Apart from that if the value of current culture is greater than 0.70 then all the data are considered reliable and valid (Zhou, 2019). It can be identified that the value of Cronbach Alpha is 0.974 which is greater than 0.70 (0.974 > 0.70). Therefore, it can be said that all the collected data is reliable and valuable in this research study.

4.2 *Secondary quantitative data analysis*

One-Sample Kolmogorov-Smirnov Test

		Revenue (in Cr.)
N		12
Normal Parameters[a,b]	Mean	806.167
	Std. Deviation	611.4502
Most Extreme Differences	Absolute	.215
	Positive	.215
	Negative	-.151
Test Statistic		.215
Asymp. Sig. (2-tailed)		.132[c]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Figure 5

One sample Kolmogorov-Smirnov test

(*Source*: SPSS)

Above figure described one sample Kolmogorov-smirnov test which is beneficial for understanding the extreme differences and significance correction. Correction of the significance as well as the inclusion of positive and negative values is considered to be one of the most crucial aspects in this scenario that describes the test of statistics under the normal variables. It indicates that the perspective of the comparative and calculated data is not same and extreme differences present in this scenario. In order to discuss computed values of each parameter, it has been observed that mean value is 806.16. Therefore, inclusion of the standard deviation is also observed to be enhanced in case of the dependent variable. Value of standard deviation is 611.45 which are present under the normal parameters.

In the case of extreme differences the mean value indicates that absolute and positive values become same indicated by 0.215. On the other hand, values of significance in the assume column indicates that the test distribution is normal and the significance correction become absent in this context.

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.030a	.001	-.099	641.2025	.001	.009	1	10	.926

a. Predictors: (Constant), Users (million)

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3742.535	1	3742.535	.009	.926b
	Residual	4108841.732	10	410884.170		
	Total	4112584.237	11			

a. Dependent Variable: Revenue (in Cr.)

b. Predictors: (Constant), Users (million)

Figure 6

Model Summary and ANOVA of present study

(Source: SPSS)

This image describes the distribution of model summary and ANOVA. The distribution of the model summary represents by the value of R square and R square changes in this scenario. Moreover, the perspective of changes is dependent on the regression and the residual value. As per the ideas of Valaskova*et al.* (2018), regression and the residual value are important to an extent for understanding the differences between the dependent variable. The R-value is 0.030 as per the secondary analysis. Moreover, secondary data from the part of data analysis represents that the adjusted value of R square is significantly indicated by 0.59. Some of the square values and the coefficient of the regression indicate that the active participation is 3742.5 with the aid of a residual value of 4108841.7. In the sig column, the value of 0.926 indicates that the study is statistically

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significant in this scenario. As revenue and users have been taken into consideration in this scenario, therefore, it can be said that there is the absence of distinct independent and dependent variables.

Company Name	Revenue (in Cr.)	Year	Users (million)
Phone pe	245.8	2019	500
Phone pe	372	2020	300
Phone Pe	690	2021	350
Google pay	743.5	2019	227
Google pay	738	2020	300
Google pay	860	2021	360
Paytm	1,870.00	2019	350
Paytm	1,770.30	2020	76
Paytm	1593	2021	140
MobiKwik	148.4	2019	22.3
MobiKwik	355	2020	107
MobiKwik	288	2021	108

Figure 7

Revenue and users data from multiple companies

(*Source:* MS Excel)

It is one of the most important parts of secondary quantitative data analysis that discusses the role of e payment in the cashless economy and consumer behaviour. Four distinct e payment groups have been taken into consideration for the research which discusses an in-depth overview of the revenue of particular companies in this scenario. The above analysis in MS excel indicates that Phone pe has a higher range of users than that Paytm, Google pay and Mobikwik. Conversely, in the case of MobiKwikhigher range of customer enhancement is observed. In the case of the rest three companies, users are observed to be decreased yearly whereas, in the case of Paytm, the 2020 financial year become devoid of any transaction. Therefore, it can be said that in the case of Paytm, users have been decreased to an ample extent in comparison with the rest companies.

5. Results and discussion

5.1 *Results of primary data*

One of the most important benefits of the e-payment process is that it can be used anytime anywhere (Xena, 2019). Therefore, people can use the e-payment process for transactions in different situations and emergencies. The researcher has created specific questions for the respondents based on the usage of e payment. It can be noticed that about 52.94% of the respondents have strongly agreed that the payment is an easier process of transactions. Apart from that, nearly 68.63% of the respondents have strongly agreed that payment is a time-saving transaction process and it is simpler than the traditional process of banking.

The percentage of online shopping has increased during the pandemic situation and along with that, the usage of the online banking process has also increased. Nearly 41.18% of the respondents have strongly agreed that during the pendency situation the use of the payment process has increased majorly in Jaipur and Rajasthan. Apart from that, it is also identified that there are some security issues with the e-payment process and about 47.06% of respondents have strongly agreed with this statement. Hence the payment process was beneficial during the pandemic situation to buy necessary aspects and avoid the spread of covid-19.

5.2 *Result of secondary data*

Discussion from the secondary quantitative analysis

After completing this study, it can be understood that the consumers are showing a laid back attitude regarding traditional payment mode (Jain and Jain, 2017). As it is time-consuming then it can be said that cashless payment or e-payment is beneficial for increasing the competitive advantages among customers. Not only had that formation of organizational changes and positive behaviour of the consumers resulted only because of less complex app surface.

6. Conclusion and Recommendations

It can be concluded that the e-payment process is a beneficial and easy process to use for having banking services such as transactions. There are a few security issues with the e-payment process but it is helpful for people in emergency situations. During the Covid-19 and other emergence situations, there were several restrictions and people were not allowed to go to the banks for different banking services. In these types of situations, the process of e payment was essential and beneficial for people in India and other countries. Thus, the banking sector must be aware of the security issues with online banking and use effective and efficient software for banking applications. It will help to reduce the percentage of cybercrimes and other security risks included in the e-payment process.

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Kanpur Philosophers
ISSN 2348-8301
International Journal of Humanities, Law and Social Sciences
Published Biannually by New Archaeological & Genological Society
Kanpur India

Vol IX, Issue IV (I), 2022

LONG-TERM FINANCIAL BENEFITS OF CROSS-LISTING FOR COMPANIES: A LITERATURE REVIEW

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ABSTRACT

Cross-listing of shares is when a firm lists its equity shares on one or more foreign stock exchange in addition to its domestic exchange. To be cross-listed, a company must thus comply with the requirements of all the stock exchanges in which it is listed, such as filing.This research paper analyses how cross-listing is beneficial to companies in long-term. We were motivated to do review of literature because in December 2018, SEBI formed an expert committee to examine the various aspects of listing of equity shares of companies incorporated in India on foreign stock exchanges and of companies incorporated outside India on Indian stock exchanges. This study aims to investigate whether cross-listing, both direct and indirect listing is still beneficial for emerging nations and how the cross-listing improves the corporate governance, disclosure norms, better investors protection, large investors base. This research is based on the systematic review of literature on various dimensions of cross-listing. For review of literature, a comparative analysis of results generated from various research papers is being done to analyse the benefits of cross-listing. The results of research paper conclude that countries from emerging economies benefits from cross-listing in terms of increased liquidity, increased trading, large investors base, better quality, analyst coverage and decreased equity cost.

Keywords: Cross listing, Direct listing, Corporate governance, ADRs-American Depository Receipts,GDRs-Global Depository Receipts.

INTRODUCTION–

Cross-listing of shares is when a firm lists its equity shares on one or more foreign stock exchange in addition to its domestic exchange. To be cross-listed, a company must thus comply with the requirements of all the stock exchanges in which it is listed, such as filing.The BOP crisis of 1990, paved the way for the Liberalization, globalization and privatization (LPG) of the Indian economy.LPG were the nutrients for the malnutritional economy. With the open economy, industries

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CERTIFICATE OF PUBLICATION

This is to certify that the article entitled

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Published in Vol- IX, Issue IV (I), April 2022
Kanpur Philosophers with ISSN 2348-8301
UGC-Care List Group I
Impact Factor- 5.45

Editor-in-Chief

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and companies were able to tap new geographies. With the emerging growth opportunities, the need for finance was also increasing, to meet thatSEBI allowed companies to raise money through ADRs/GDRs from April 1992.

Cross-listing is, listing the stocks of a firm, on an overseas exchange. Cross-listing is of two types – Direct Listing (Ordinary listing) and indirect listing (Depository listing).Direct cross-listing is the one in which firms' listsequity stocks overseas. Indirect listing is done through depository listing, consisting American Depository Receipts (ADRs) and Global Depository Receipts (GDRs) mainly. There are various types of American Depository Receipts– Level I, Level II, Level III, and Rule 144A. Review of literature shows that major studies focus on US stock exchanges, particularly New York Stock Exchange (NYSE). Research on foreign firms cross-listed in US is extensive but lesser on firms from US, cross-listed in other countries and emerging nations (Doidge, Karolyi, and Stulz, 2004). There are only a few studies that focuses on emerging Asian economies- India, China, African countries. Brazil, Malaysia, Peru these are the few emerging economies that serves as the host market for the one or two foreign firms(Sarkissian and Schill, 2009).

The trend of cross-listing hasshown a steep decline, the reason being the combination ofeconomic, political, institutional and regulatory frameworks across the world. The pace of de-listing increased, around 2002-03, after a steady growth trend from 1990-2001. In 2011, cross-listing declined up to 50%, from 4700 in 1997 to 2,289.

Researchessuggests, that the largenumber of companies still prefers tolist on overseas bourses (Dodd, 2013). The lower cost of capital has been the major impetus to cross-list along with the segmentation of the world capital market,but cross-border barriers outweigh the benefits of the less capital cost. That's why the cross-listingratio for the firms who can cross-list is very low. As the market progressed, different impetus arrived to cross-list, (Ghosh & He,2015). Butcross-listing is debatable which gives researchers right to question: Why and how does a firm cross-list, and does cross-listing create additional value for the existing stockholders (Chaturvedula (2018).

This research paper organized is as follows, introduction of the paper entails – meaning, different theories, various factors that earlier worked as impetus for cross-listing but the same factors are no more considered beneficial. Followed by the objectives of the research study. Then weanalyze the existing literature. Then research methodology. Lastly, India's status on cross-listing and conclusion.

RESEARCH METHODOLOGY

The study is based on the systematic review of literature, including Indian and international, empirical and descriptive, studies on cross-listing. Cross-listing is one of the areas that lacks vast existing literature. To build the theoretical framework, secondary data sources, various research papers from widely known publishing agencies have been used. Descriptive research approach has been used in the research study. This research paper is largely a comparative analysis of the existing literature. Report by SEBI on"listing of equity shares"is also being referred.

OBJECTIVES OF THE STUDY

1. To create a theoretical foundation for the research study on the basis of existing literature.
2. To learn about the methods and variables those are mostly used in the previous studies.

3. To identify the research gap in the existing literature to determine the path of a new study in the field of Cross-listing.

REVIEW OF LITERATURE

M. Pagano et al. (2001)studies the correlation between the decision to cross-list and the characteristics of the destination exchange relative to the home exchange. They study the trend of cross-listing in U.S. and European companies during 1986-1997. It uses the ratio of foreign listings to total listing in a stock exchange to show the 'outward orientation' of stock exchange. In their finding, U.S. exchanges have attracted a huge chunk of foreign firms, beating their European counterparts. Their study suggests that companies tend to cross-list in larger, more liquid markets and

in culturally homogenous markets. Further, peer-tested markets are preferred over others. Better investor protection and efficient courts and bureaucracy also attract foreign firms. However, stringent accounting standards act as a deterrent. The paper also looks at the qualitative configuration, U.S. is preferred by relatively high-growth, hi-tech, R&D intensive and strongly export oriented companies, while European markets are chosen by firms with stronger records of past profitability.

Chouinard and D'Souza (2004) financial markets are becoming more integrated. The world is becoming borderless but researchers say that geographical borders still matter in finance. This article focuses on the reasons why firms prefer to cross-lists and the consequences of cross-listing. Firms cross-lists to take advantage of international visibility, large investor base, increased analytical coverage, reduction in cost of equity. If the markets were fully integrated then there shall be no change in stock prices after cross-listing but stock prices change after cross-listing which means geography still matters in finance. In theory cross-listing is beneficial, the benefits are not significant. Increased financial competition for the order flow, benefits investors in terms of informed decision making.

Kumar (2006) calls attention to the impact of Indian overseas listings on the returns of the underlying shares. In 1992, Indian government allowed Indian companies to raise money through depository receipts. The sample size is 68 ADRs/GDRs programs between 1996 to 2001. This research is based on event study methodology. There is clear evidence of increasing price during the pre-listing period and decrease in prices during the post-listing period but not significant. Further, this study shows that companies GDR listing on LSE have adverse impact on the prices of underlying shares than the GDR listing on LSE.

Sergei and Michael (2009) This is the first among the studies, focuses on the chronology of the sequence of listing by taking the global sample of 1676 firms from 25 countries. Along with chronology, the valuation effects of multiple cross-listing are empirically tested. Why sequencing and chronology matters, is that firms usually choose to list themselves on domestic stock exchange first then on overseas stock exchanges, the possible reasons for this are cross-border barrier to investment and information flow, differences in liquidity, disclosure, legal protection and tax advantages. The findings of the research show that the increase in the valuation or abnormal return, starts well before the listing and continue to declines after. The study also finds the transitory and permanent valuation gain associated with first listing be it domestic or foreign. Their findingssuggest, insignificant permanent valuation gain related to relative market size, liquidity and legal protection. Though, there is permanent relationship between returns and improved information disclosure.

Doidge et. al. (2009)investigates that controlling shareholder who derives benefits from firm will less preferably to cross-list even when they can benefit from cross-listing. The sample size is4000 firms from 31 countries Asia, Europe, Latin America, and elsewhere. Multinomial logistic regressions based on cross-sectional analysis shows that controlling shareholders who have major stake will not prefer cross-listing on NASDAQ, AMEX, NYSE. Firms with higherleverage are more likely to cross-list. Results shows that when the control rights are more than cash flow rights, firm is less likely to cross-list. All the results support this research that shareholders with major controlling rights are less likely to cross-list overseas.

Roosenboom P. et al. (2009)they investigate the stock price reaction to 526 cross-listings from 44 different countries on eight major stock exchanges in the US, the UK, continental Europe, and Japan in the period 1982–2002. They present evidence in support of higher valuation gains in U.S. markets being attributed to high liquidity, stringent disclosure requirements and strong investor protection mechanism. On the other hand, for London, market segmentation and investor protection explain the abnormal gains. They also show that firms from emerging markets reap significantly larger benefits from cross-listing than firms from developed markets. This study suggests value addition for shareholders through cross-listing.

Waweru et. al. (2012), examine the listing on East African Stock Exchanges by Firms listed in the Nairobi Securities Exchange. This study focuses on the key reasons that compels the key managers to cross-list. This study is descriptive study with the sample of 15 firms listed, 7 firms listed on east African stock exchanges and 8 firms in the list to be listed. The highest correlated variables for cross-listing are, increased investor base, to exploit growth opportunities, to boost corporate marketing efforts, access to external capital, to facilitate mergers and acquisitions, to broaden product identification andto reduce the cost of capital. These results are consistent with other researches.

Peng &Su (2012), this paper talks about the corporate governance and bonding mechanism. Bonding is both formal (legal) and informal (reputational). In this paper, bonding effect of board independence on H-share companies and agency problem of companies from China & Hong Kong is empirically tested, by taking the sample size of 81 H-share companies. H-share companies are those Chinese companies registered on Hong Kong stock exchange. Literature suggests that employing independent directors is a key to bonding mechanism and it considered as solution to the agency problem. The conclusion is that, legal bonding is absent in case of China, Hong Kong and H-share companies. But in case of reputational bonding H-share companies are better than the other two as they appoint more independent directors then required, form specialized committees even if it's not mandatory, prefer to hire local professionals as independent directors who brings their expertise for the benefit of company.

Dodd (2013)presents a comparative analysis of major empirical evidences from researches conducted across the world which supports cross-listing because all theories help in increasing firms' valuation, large customer base, global recognition, increased stock liquidity. There are some contradictory evidences in investor recognition theory, information disclosure theory and proximity theory but the decision of cross-listingis firm specific.

Ghosh& He (2014) focus on the mechanism through whichthe cross-listing improves the firms value. The analysis is based on sample of 4,649 and 60,237 firm year observations. Fama-French (1997) method was being used.The regression analysis result confirms that cross-listed firms invest significantly in R&D, have better profitability and more acquisition than no-cross-listed firms.This research paper reports that Civil law country have the weakest investor protection rules and opposite is for Common law country.

Chaturvedula(2018) claimed thatthere is baffling debate on the benefits of cross-listing, whether cross-listing is beneficial, does cross-listing help in increasing shareholders wealth or not. This study tests the ADR/GDR listing effect on the shareholders wealth, the sample size is 99 ADR/GDR issued by 79 Indian companies, during the period 2000 to 2007. This study is based on event study methodology. This study concludes that ADR/GDR listing adversely affects the stock prices. There are significant negative average abnormal returns in the event window in both pre-listing and post-listing.

Hong Xu, Ying Fu &EdmundasJasinskas (2021) mentions under the study to clarify the influence mechanism of cross-listing on enterprise performance, the data of A + H cross-listed enterprises and non-financial enterprises listed in the A-share main board in Mainland China during 2008–2018 were used as the samples to investigate the effects of cross-listing on different types of inefficient investment behaviours and overall investment efficiency. The influence path of cross-listing on investment efficiency is of status dependency. Cross-listing effectively decreases the degree of UI, but it also markedly increases the degree of OI.The inefficient investment status faced by cross-listed enterprises determines that the cross-listing further increases the degree of OI. Thus, cross-listing leads to the deterioration of EI on the whole.

DIFFERENT THEORIES OF CROSS-LISTING

Deciding the venue of listing is firm specific. Market related benefits are liquidity, tax treatment, disclosure and shareholder protection (Sarkissian and Schill,2006).Literature presents evidence in support and against these benefits. There are different theories on cross-listing, all the theories are based on the different motives to cross-list. These motives are divided into two parts i) Traditional motives – Market segmentation and Liquidity theory ii) Information Based motives – Investor recognition, Information disclosure, Legal bonding, Proximity preference and Business strategy theory (Dodd, 2013).

Market Segmentation Theory

Financial markets are not just segmented by geographical borders but also segmented by various types of regulatorynorms such as, regulatoryrestrictions and taxes. Prices of the same securities and assets can be different in different capital markets due to the imposition of taxes. A company can overcome these barriers by cross-listing overseas.Evidences supports segmentation in US, as this results in access to cheap capital (Errunza& Losq,1985;Jorion& Schwartz, 1986;Errunza& Miller, 2000).Foerster and Karolyi (1999) find that firms experience abnormal return when cross-listed in US, result is consistent for firms from Europe, Asia-pacific and Canada. Reduced market segmentation results in increased valuation (Lins, Strickland and Zenner, 2005; Foerster & Karolyi, 1999). Bris, Cantale and Nishiotis (2007), advocates that integration leads to the less premium for unrestricted securities.Lee (2004), claims that abnormal return around the announcement, around listing date is not because of the segmentation rather it is firm's ability to reap the benefits of growth opportunity.

Liquidity Theory

Lower stock liquidity in segmented capital markets is the major drawback. Majority of developing countries suffer from lower liquidity. Cross-listing facilitates round-the-clock trading and large investors base induced competition helps in reducing the bid-ask spreads, this also helps in increased trading in domestic market. The empirical evidences on stock liquidity are mixed. Foerster &Karolyi, (1993) Canadian firms that cross-lists on US, finds an increase in trade both in international and domestic market after cross-listing. Mittoo (1997), reports an increased trading on the Toronto stock exchange but a simultaneous decrease on the Vancouver stock exchange. Foerster and Karolyi (1998), reported slight decrease on the domestic market because of some trading order flows to the foreign market. Smith and Sofianos (1997), finds an increase in trading at both domestic and foreign level. Domowitzet al.(1998)results are, declined trading in domestic market for emerging Mexican economy because of increased trading at cross-listed exchange i.e., U.S.Research studies on liquidity theory is limited to listing on US stock exchange. Literature shows that liquidity of stocks from developed country firms improves after cross-listing and opposite to this liquidity in emerging market either remains same or even declines.

Investor Recognition Theory

The size of the firm's investor base is a measure of investor recognition(Merton, 1987;Foerster and Karolyi,1999). There are evidences on "home-bias" in US, that foreign investors prefer to buy stock when it is listed on their domestic exchanges, which means stocks becomes more attractive after cross-listing and helps in creating large investors base.Baker et al. (2002) finds increased analyst coverageafter cross-listing on New York Stock Exchange and London Stock Exchange. Empirical evidences support that cross-listing provideslarge investor base and helps in increasing firm valuation. Cross-listing does not guarantee large investors base but results in huge compliance costs. Institutional investors prefer to invest in attracting stocks rather than by seeing where stocks are listed. Investors prefer to invest in those countries which follow the common law system, protects the interests of minority shareholders better than civil law system, (La Porta et al. - 1997, 1998, and 1999),alsoattract significant premiums on the value of their cash holdings over their domestic peers and promotes the separation of ownership and control (Wissam Abdallah, Marc Goergen 2005).

Information Disclosure Theory

The theory says, firms prefer to disclose information on stock exchanges, as it helps firms to gain investors trust and reduced cost of accessing information. Disclosing information reduces information asymmetry.Huddart, Hughes and Brunnermeier (1999) suggests that stock exchanges increase the disclosure level to gain competition for equity trading, which is also called as "race-to-the-top". Investors prefers to invest in stock listed on exchanges with strict requirement to cross-list.Abdallah et al. (2011) reports thatstock trading increases following cross-listing because investors are more informed and aware of the firms. Increased disclosure encourages stock trading in home market also. Eaton et al. (2007), examines the effect of information disclosure on cost of equity, findings support that listing on NYSE results in reduced cost of capital. Increased visibility improves valuation (Baker, Nofsinger, and Weaver, 2002). Saudagaran and Biddle (1992) contradictory findings of increased disclosure, results in the significant disclosure cost.Sarkissian and Schill (2004) argue that a foreign listing is not sufficient to overcome cross-border information or familiarity barriers.In some cases, firm's voluntary disclosure of information brings reputational bonding to the firm.

Legal Bonding Theory

The literal meaning of 'bonding' is to bind or establishing relationship with someone. Listing on US exchanges improves firm's valuation because firmsbecome subject to better corporate governance and stricter investor protection rules. Coffee (1999, 2002); Stulz (1999) says, valuation gain is most often considered as the result ofbonding hypothesis. This theory says, protection of minority shareholders, in foreign country is the main reason to cross-list. Reese and Weisbach (2002); Abdallah &Goergen (2008); Boubakri, Cosset and Samet (2010); Abdallah &Goergen (2008), these studies advocate that companies from weaker investor protection norms are most likely to cross-list over US stock exchanges in order to attract large investor.

Level III is the only listing rule requires companies to follow most stringent rules & regulation which protect minority shareholders (Boubakri et al., 2010). Cross-listing improves corporate governance also and companies with better corporate governance appoints more independent directors, audit committees and other specialized committees (Charitou, Louca and Panayides, 2007). Fresard and Salva (2010), find that firms cross-listed on U.S. exchanges have better opportunities to use their cash holding, the reason is that strict rules regulation and increased monitoringprevents asset tunnelling, which results in higher valuation. Another, reasons for increased valuation are market timing (Sarkissian and Schill, 2009), and reputational bonding (Siegel, 2005). With the implementation SOX act 2002, the valuation premium has decreased (Litvak, 2008). Bris, Cantale, and Nishiotis (2005), observe that the impact of cross-listing on improving investor protection is dubious.

Proximity Preference Theory

All the theories support that cross-listing in a country of less familiarity is beneficial. But this theory is exception, firms that prefers to cross-list in US are mostly from Canada and Latin America, firms from New Zealand prefers Australia and similarly Irish firms' preference is UK (Sarkissian and Schill (2004, 2012). This pattern shows that firm's probability to cross-list in the countries of familiar culture, geographic, economic or industrial is more and where investors are familiar with the origin of the cross-listed firm.

Empirical findings suggest that firms that have major export trading, have higher probability to cross-list overseas (Saudagaran and Biddle, 1995; Pagano et al., 2002). Daugherty and Georgieva (2011) find that cultural familiarity works as important factor to cross-list. Some evidence suggests that there is no impact of proximity on cross-listing permanent valuation gain (Sarkissian and Schill, 2009). Dodd et al., (2013) finds that companies of developed countries consider cultural familiarity as the determinant of cross-listing. Sarkissian and Schill (2004), show that cultural, economic and geographical proximity works as determining factor to cross-lists. Studies are very limited to conclude that proximity theory works as determining factor at all exchanges.

Business Strategy Theory

Literature suggests thatfirm's business strategy involves cross-listing which helps in taking advantages by being a global firm. Pagano et al. (2001), reports that cross-listingpreference iswhereassociated firms are listed to, which is also known as "be with your peers". Pagano et al.(2002),supports that cross-listing on US is mainly a choice of firms that have high-growth opportunities, firms from high-tech industries. Cross-listing is a strategic decision that is result of the interaction of the management team and international business.

In case of emerging countries, managers are most likely to cross-list when the domestic market is bullish this is called as "managerial opportunism". Cross-listing is mostly considered as part of firm's global business strategy (Pagano et al., 2002; King and Mittoo, 2007). Different industries prefer to cross-list at US but the valuation effect differ from industry to industry (Mittoo, 2003; and Dodd &Louca, 2012). Mostly high-tech, manufacturing and natural industry firms, capital intensive industries, for meeting increased capital requirements, cross-lists over US market and experiences significant abnormal returns around listing date (Dodd and Louca, 2012). So, this theory supports that cross-listing is the integrated part of business strategy (Pagano et al., 2002; King and Mittoo, 2007).

FACTORS THAT OUTWEIGH THE BENEFITS OF CROSS-LISTING

Based on the review of literature these are different major factors of cross-listing. As per the conventional wisdom, these factors were considered as the motives and impetus to cross-list. But over the years, with changing regulatory norms, these motives are fading. Some of the studies shows that these motives are no longer considered as cross-listing motives.

Bonding Hypothesis – The meaning of Bonding hypothesis is that the firm improves its corporate image by following the more stringent rules and regulation by cross-listing on developed market stock exchanges(Coffee 1999 & 2002 and Stulz 1999). Bonding hypothesis consists; Legal Bonding and Reputational Bonding. Corporate governance is considered as the important motive for cross-listing but it is not new phenomenon and nowadays emerging economies are following the standard laws to attract large investors base, by being at par with the developed world. So, the corporate governance benefitshardly exist when firms are already equipped with corporate governance.

Compliance Costs – Cross-listing is the best way to secure the confidence and trust of investors. In US there are direct (laws, disclosure and enforcement actions) and indirect constrains (analyst and media coverage) which deters firms from cross-listing (Coffee,1999 & 2002; Stulz, 1999). These requirements result in high bureaucratic and compliance costs, leads firms to de-listing, which is against the spirit of stock exchanges. After the introduction of SOX act 2002, de-listing has increased, huge compliance cost is the reasons why listing premium is lost in the US capital market (Marosi and Massoud, 2008; Fernandes et al., 2010). The researchers argue that cross-listing does not results in long-term valuation benefits (Sarkissian and Schill, 2009). Increased compliance cost is considered as negative factor by the investors (Zhang, 2007; Litvak, 2007).

Price Discovery – One of the stimulators for firms to cross-list is price discovery. Cross-listing is not the sole factor in deciding the price of the stock. Price determination is the function of order flow which can be higher at the domestic or foreign stock exchange, irrespective of cross-listing. So, if a firm feels motivated to cross-list overseas for price discovery, then cross-listing might not be helpful. Order flow is the result of better investor protection, corporate governance, information disclosure. So, a regulatory institute may impose stringent regulations to attract investors from all over world. In that case, domestic financial market serves price discovery.

Confidence in the management– Managers consider increased investor recognition and dispersion of share ownership as a major benefit of cross-listing (Mittoo, 1992; Fatemi and Rad, 1996; Yamori and Baba, 1999; Bancel and Mittoo, 2001). But investors prefer to invest onlyif theybelieve that capital acquired will be channelized into productive means. "Asset tunneling" is the one major risk (that shareholders, management and company insiders will use the company's assets for personal use). This is the main threat to minor shareholders; whose control is not vocal. This affects the subscription to companies shares in newmarket.

Contagion and Spillover effects – If there is any change in the information disclosed (unfavorable event) in one market, will have contagion effect in other marketsdue to the integrated financial world. Increased visibility also affects the price of shares which might result in volatility and uncertainty. US financial crisis is one that example, that impacted the economies all over the world in significant way.

CONCLUSION

Researchevidences supports that firms make better investment decisions following cross-listing, particularly R&D expenditures increasesandfirms make superior acquisition decision after cross-listing (Harford, Mansi, and Maxwell, 2008). Analysis provides that there is no difference in the investment decisions of cross-listed firms in the pre-listing period and non-cross-listed firms.A theory suggests that cross-listing helpsin increasing firms' valuation, large customer base, global recognition, increased stock liquidity. Although, there are some contradictory evidences that theory are not the prominent motives to cross-lists. Karolyi (1998), concluded that the impact of cross-listing on the stock valuation varies with firm specific, issue specific, market specific and country specific factors.Miller (1999),reports significant positive returns on the announcement of cross-listing in the emerging countries.The conclusion is that decision to cross-list is firm specific but firms form weaker investor protection grounds, benefits from cross-listing and in one or the other way cross-listing helps firms in gaining advantages over the period. Better use of excess cash after cross-listing is also the result of investor protection because cross-listing results into lower voting premium that makes managers to take decisions which are in favor of firm's growth.The conclusions of this study put forward suggestions for improving enterprise performance from the angle of improving investment efficiency, namely, the enterprise should prudently deal with subsequent financing, and should not blindly raise funds for 'money encirclement' any longer.

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ISSN No. 2277-7067

CERTIFICATE OF PUBLICATION

This is to certify that

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For the paper entitled

DISPARITIES IN HEALTHFACILITIES: AN INTER-DISTRICT ANALYSIS OF RAJASTHAN

Volume- IX, Issue-II (VIII), February 2022

in

Shodhsamhita

Impact Factor: 4.95

UGC Care Group 1 Journal

Editor-in-Chief

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DISPARITIES IN HEALTHFACILITIES: AN INTER-DISTRICT ANALYSIS OF RAJASTHAN

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Abstract:- Health and enlargement in infrastructure are closely related to each other and can have an effect on interchangeably. Health service sector as vital social part of any country plays a criticaltask in the benefit of its people. Right to use to health services arecommonly accepted internationally as anessentialendeavor in meeting the health needs of people. The load of expenditure of disease/health care in India is still very huge. Although there has been a lotenhancement, nationwidelevel surveys exposeextensive disparities between different districts, and districts as well rural/urban areaby respect to contact to vitalhealth services and eminencemedical facility. Thismatter has been theanxiety of the community and medicalguidelines makers. The regional health& medical inequalities are mostlyaneffect of difference in the stage of economic growth and differences in reach to medical &health care services. The geologicalallocation of health indicator (as one of the most significant indicators of improvement) in the districts of Rajasthan isdiverse and inconsistent.Rajasthan, despite being aneconomically developing state of India, is suffering from the problem of disparities in public health infrastructure.Health facilities is the major indicator of any demographical area and therefore, this paper investigates the spatial variation between the districts of Rajasthan in terms of Average population covered in health facility in districts of Rajasthan and deliveries conducted at health centers (PHCs) in Rajasthan. We have also analyzed the status of CDR, CBR, Under five mortality rates among District of Rajasthan under the present paper.

Keywords:-Disparities, Health Indicators, Crude death rate, Under five mortality rate

Introduction:-

The health and welfare of the citizens of the country depends on a well-developed, equitable and accessible health infrastructure. Medical &Health facility isessential for perceptive healthcare guidelines and benefitsystem in a country. Community health& medical infrastructure provide communities, districts, states and the nation, thecapacity to avoid diseases, encourage health and plan for and react to bothacute pressure and continual challenges to health. The infrastructure is the base forplanning, deliver, evaluate and improving public health system.

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The term basic physical infrastructure in health has a lotwiderimportance. It includingnot just health & medical centers, primary health centers, or hospital although in addition sound qualified personnel by a examine perspective. Therefore, the aspire of a health infrastructure is to supplyhealthcare conveniences to the citizens, thereby humanizing their health position.The demographic indicator such as infant mortality rate, death rate and birth rate arereliant to a greatscopelying on the accessibility of health & medical services.

This is importancenote the substance of the health segment to the level that development of health index can improve human and social growth that finally lead to the widespreadexpansion at the state level. Regional/ districts study in various countries disclose that precise segment has enhanced recital and have enjoyed newhealth services.

Review of Literature

Joshi analyze the expensesincurthrough the Central and State government on public sector for the period of the pre-restructuring period and post-reform period. The study set up that there had been aget higher in health & medical expenditure from 0.8% of GDP in 1980-81 to 0.92% in 1989-90. **Kumar and Gupta** made an attempt to study health infrastructure in India and the collision of National Rural Health Mission (NRHM) initiatethrough the central. The study found that central is requisite to take an incorporated approach, which shouldobtain into deliberationconference the regional difference. **Kumar and Singla** analyzed the regional inter- state disparities to observe the pattern of economic performance across 15 major Indian states for pre – restructuring and post restructuring period 1980-81 to 2010-11. **William** analyzed extensive evidence of revenue linked health inequality in India which shownot well health load is be a run reasonably through different residents' subgroups. According to **Shahrawat and Rao**the3.5% of the population drop below the paucity line and 7% householdundergodisastrous health costs due to too expensive health& medical cost. **Chotia & Chaudhry** investigated the inter-relationship between regional infrastructure, poverty and economic growth in Rajasthan. The study found that Jaipur held the edge over the other districts of Rajasthan in indicators like roads per sq.km of area, number of census houses per sq.km, percentage of villages connected with roads etc.

Objective of the study

To analyze the inter district disparities of healthFacilities in Rajasthan according to the district level household and facility survey 2012-13 of Rajasthan and census 2011.

Database and Methodology

The present study is carried out using secondary data. Secondary data on selected variables is taken from issues of the Census 2011 and DLHS2012-13 of Rajasthan. In order to study inter district disparities, all 33 districts

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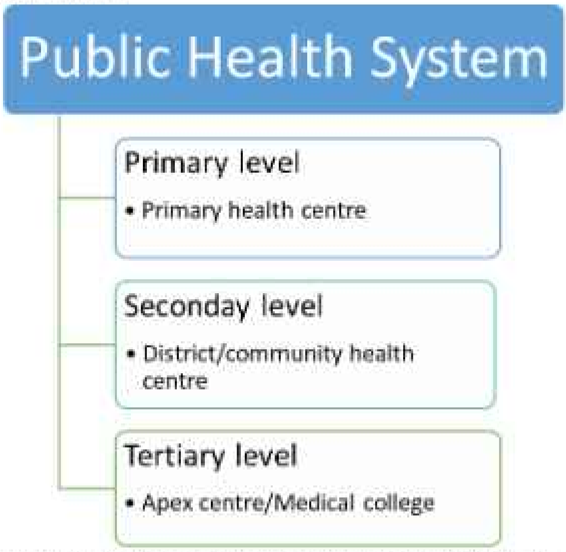
are taken for study for the period. For analysis purposes, the statistical techniques mean, standard deviation, correlation and Coefficient are used.

Health infrastructure in Rajasthan

Rajasthan, the Indian Union's geographically largest state, is situated in India's northwest district, with 68 million (or 5.61 percent) of the India's population. The overall population solidity is 200 people per mile Km. The Rajasthan's decadal increase rate is 21.44% and consequently, the district's population continues to rise at a pace that is much higher than the India's average. Rajasthan is separated into 7zones which cover 33 districts, 238 blocks and 41,692 villages. Rajasthan is largely in the rural and the livelihood of 75% of the total population relies on agriculture.



Primary Health Care provides the community with preventive, curative and educational programs in which only serious and clear diseases are cared for the first HealthCare.

Secondary Health Care is intended to offer the population with remedial and specialist care, which serves as the main recommendation center for PHCs which sub-health centers.Health Centers, Sub-Divisional hospital, District-Hospitalperform as secondary health care health institutions.

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Tertiary Health Care also supplies the community with highly advanced treatment for chronic conditions as comprehensive health care programs. As tertiary health care, medical colleges and apex health centers operate.

Health Facilities in Rajasthan –

- Public Health Infrastructure – According to **4th Common Review Missionof the National Rural Health Mission Rajasthan,** there are 7medical colleges, 34 district hospitals, 12 sub district hospitals, 6 satellitehospitals, 376 CHCs, 199 dispensaries, 11487 SCs. There are some gaps in healthfacility &infrastructure in the Rajasthan.
- Human resources - Although within the NRHM process, as per the"**4th Common Review Mission of the National Rural Health MissionRajasthan**," there has been considerable increasing human health capital, particularly in the employment of Accredited Social and Health Activists (ASHAs); the recordcontinue to accountmajordifference between needed and working health functionary at eachlevel, particularly in rural healthofficer, junior & senior specialist, nurse, ANMs and lab technician.
- The Sample Registration System (SRS) is anextensive demographic assessmenttoprovidedependableyearlyestimate of Infant mortality rate, birth rate, death rate and other fertility & mortality indicators at the national and state level.**SRS bulletin 2020** presents the above estimates for the year **2019**. According to this bulletin Rajasthan have the following results: -

India/Rajasthan	Birth rate			Death rate			Natural growth rate			Infant mortality rate		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
India	20	21.6	16.7	6.2	6.7	5.1	13.8	14.9	11.6	32	36	23
Rajasthan	24	24.9	21.3	5.9	6.1	5	18.1	18.7	16.3	37	41	26

Health Infrastructure disparities in Rajasthan

Disparities in Health sector can be determined through proper allocation ofavailable resources and utilization as well as demand for health care needs.Equitable health care is possible through proper sourcedistribution and right to use tohealth care is resolute by health needs. Rajasthan, despite being aneconomically developing state of India, is suffering from the problem of disparitiesin public health infrastructure. Under the **District Level Household and Facility Survey (2012-13)**, a total 989 SHCs were surveyed from 33 districts in Rajasthan depicting the following findings about inter-districtdisparities –

- Out of the 989 Sub-Health Centers average population covered by a SHC is4005. The highest average population covered (6642) among the surveyed SHCs is in Dausa district and the lowest (2552) in Jaisalmer district and it isslightly lower as per prescribed in the government norms.

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- ❖ Eighty One percent of SHCs have their own government building. Apartfrom Kota which has only 52.3 percent of the SHCs owning governmentbuildings, all other districts have more than 60 percent of their SHCs workingfrom government buildings etc.
- ❖ Bikaner, Jaisalmer, Jalore, Pali and Kota have more than 80 percent SHCswith ANM in position. 26.8 percent of the SHCs in the state are havingadditional ANMs in position. It is highest in Banswara district having additional ANM while Churu does not have additional ANMssuch a grim situation of inter-district disparities in public healthcare facilitiesmay be recognized to many essential factors, which include insufficient budgetaryprovisions, administrative misconduct, and lack of human resource, infrastructural incompetence and the contentment disinclination of the governmentalong with all.

Table 1:- Showing the District wise population of Rajasthan

Sl. No.	State / District	Population (in lakh)	Crude Birth Rate	Crude Death Rate	Infant Mortality Rate	Neo- natal Mortality Rate	Under Five Mortality Rate
	RAJASTHAN	686.21	24.7	6.6	60	40	79
1	Ajmer	25.85	23.8	6.4	57	34	77
2	Alwar	36.72	22.9	5.9	59	35	82
3	Banswara	17.98	30.8	7.7	62	41	99
4	Baran	12.24	25.7	6.8	62	41	79
5	Barmer	26.04	32.5	6.4	72	54	86
6	Bharatpur	25.49	23.8	6	55	42	75
7	Bhilwara	24.1	22.4	7.5	68	48	85
8	Bikaner	23.68	24.9	6.4	54	37	72
9	Bundi	11.14	23.7	7.8	65	45	81
10	Chittaurgarh	15.44	21.4	5.7	62	45	75
11	Churu	20.41	23.4	6.3	55	36	69
12	Dausa	16.37	22.4	6.6	57	33	87
13	Dhaulpur	12.07	29.1	5.9	63	36	77

14	Dungarpur	13.89	28	6.5	67	43	87
15	Ganganagar	19.7	22.7	6.3	60	39	79
16	Hanumangarh	17.8	23.6	6.3	54	35	73
17	Jaipur	66.64	23.1	5.9	55	39	74
18	Jaisalmer	6.72	24.2	6.7	58	30	78
19	Jalor	18.3	27.9	7.4	79	58	99
20	Jhalawar	14.11	25	7.8	65	47	82
21	Jhunjhunun	21.4	23.3	5.9	54	39	74
22	Jodhpur	36.86	23.9	6.3	54	35	71
23	Karauli	14.58	27.5	6.2	68	44	80
24	Kota	19.5	22	5.7	36	25	45
25	Nagaur	33.09	23.4	6.5	59	42	75
26	Pali	20.39	23.5	6.8	55	39	78
27	Pratapgarh	8.68	--	--	--	--	--
28	Rajsamand	11.58	28.1	8.7	65	41	89
29	SawaiMadhopur	13.38	27.4	7.4	67	46	78
30	Sikar	26.78	24	6.1	56	32	82
31	Sirohi	10.37	24.1	6.9	62	41	85
32	Tonk	14.22	23.3	7.6	51	33	73
33	Udaipur	30.68	29.9	8.2	62	40	88

Sources : *Census 2011

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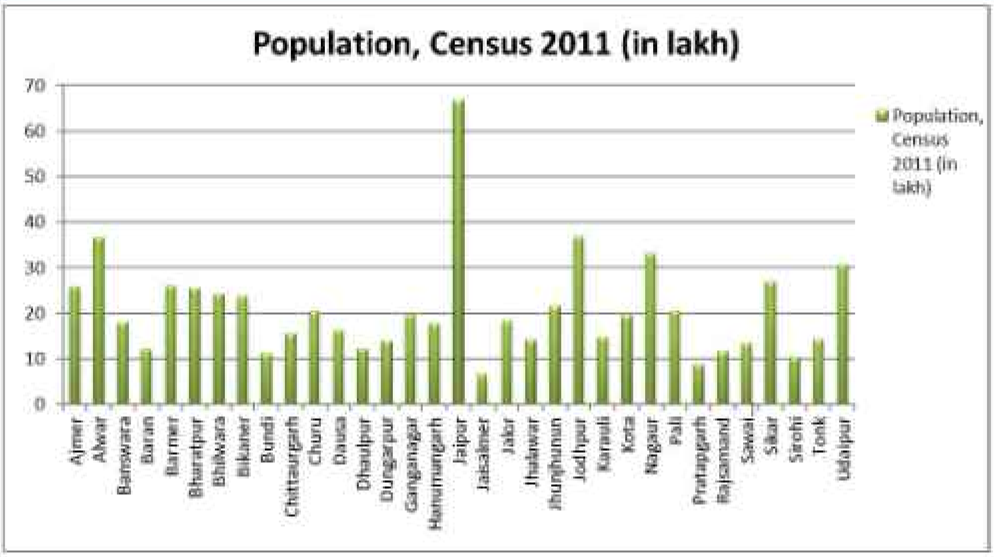

Population covered by Health Center: -

Out of the 989 Sub-Health Centers average population covered by a SHC is 4005. The highest average population covered (6642) among the surveyed SHCs is in Dausa district and the lowest (2552) in Jaisalmer district and it is slightly lower as per prescribed in the government norms.Sub-Health Centers (SHCs) are the mainlyunimportant health institution catering to the health care requirements of the rural population. It is the mainlytangential contact positionsandwiched between the Primary Health Care medical system and the public.

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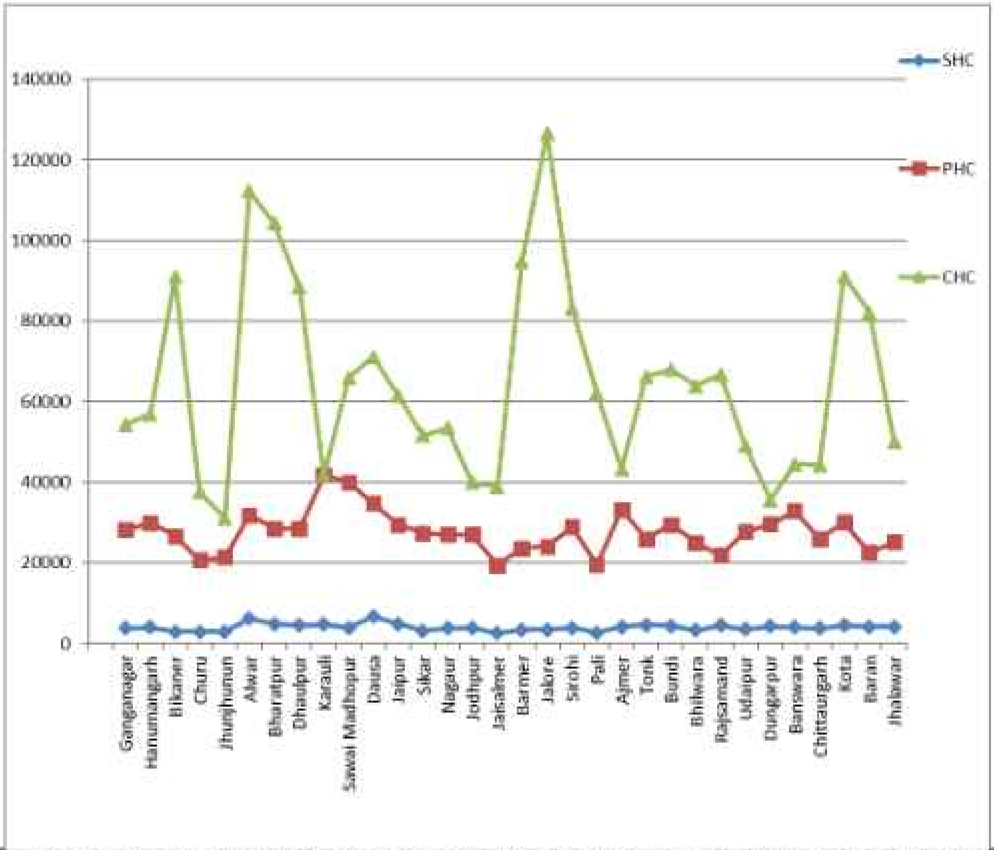

AVERAGE POPULATION COVERED BY HEALTH FACILITY BY DISTRICTS, RAJASTHAN, 2012-13.

District	Average population covered by SHC	PHC	CHC
.Ganganagar	3727	28153	54313
.Hanumangarh	3956	29928	56899
.Bikaner	2999	26650	91000
.Churu	2973	20694	37486
.Jhunjhunun	2984	21374	31025

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.Alwar	6127	31811	112296
.Bharatpur	4775	28456	104304
.Dhaulpur	4436	28374	88344
.Karauli	4742	41764	41749
.SawaiMadhopur	3946	39948	65903
.Dausa	6642	34755	71217
.Jaipur	4872	29481	61434
.Sikar	3189	27305	51572
.Nagaur	3764	26966	53510
.Jodhpur	3865	26950	39886
.Jaisalmer	2552	19363	38789
.Barmer	3464	23539	94757
.Jalore	3425	24039	126671
.Sirohi	3885	28904	83046
.Pali	2727	19511	62014
.Ajmer	4072	33217	43267
.Tonk	4555	25919	66290
.Bundi	4407	29426	67949
.Bhilwara	3324	25007	63864
.Rajsamand	4501	21858	66684
.Udaipur	3591	27633	49143
.Dungarpur	4203	29566	35582
.Banswara	3966	32838	44457
.Chittaurgarh	3791	25906	44172
.Kota	4444	30047	91132
.Baran	4130	22493	82197
.Jhalawar	4175	25122	50090
.RAJASTHAN	4005	27114	63206

PHC= Primary Health Centre; CHC= Community Health Centre; SHC= Sub Health Center.

Deliveries conducted at Primary Health Centre (PHCs)

This information was collected in the facility survey with a reference period of last one month prior to the survey. The PHCs in districts of Hanumanagarh and Dhaulpur have not performed even single deliveries in the last one month prior to the survey. Among those districts where PHCs have provided services for conducting the deliveries, the highest (85 percent) of the PHCs in Sawai Madhopur district has conducted at least 10 deliveries.

SPECIFIC HEALTH FACILITIES AVAILABLE AT PRIMARY HEALTH CENTRES BY DISTRICTS, RAJASTHAN ,2012-13.

District	New born care services*	Referral services for delivery**	Conducted at least 10 deliveries	Total number of PHCs
Ganganagar	95	59.1	45.8	24
Hanumagarh	94.7	31.6	0	20
Bikaner	100	50	55.6	18
Churu	94.7	55.6	22.7	23
Jhunjhunun	96.2	4.2	12.1	37
Alwar	100	28	12.5	35
Bharatpur	94.4	27.3	28.1	35
Dhaulpur	100	33.3	0	11
Karauli	70	50	23.1	13
SawaiMadhopur	85.7	50	85.7	10
Dausa	100	61.1	50	21
Jaipur	95.2	11.1	57.1	22
Sikar	84.6	18.5	13.8	32
Nagaur	90.5	40.9	35.7	35
Jodhpur	92.3	47.1	47.6	23
Jaisalmer	75	50	44.4	11
Barmer	76.5	31.8	34.6	28
Jalore	100	36	44	31
Sirohi	100	31.3	50	18
Pali	100	36.4	38.5	31
Ajmer	94.1	23.5	35.3	18
Tonk	95.5	20	27.3	25
Bundi	100	60	37.5	17
Bhilwara	100	20	38.5	16
Rajsamand	93.3	15.4	27.8	18
Udaipur	92.9	30.8	53.3	20
Dungarpur	100	43.5	56.5	27
Banswara	83.3	0	66.7	17
Chittaurgarh	94.7	31.3	22.7	24

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Kota	88.9	36.4	35.7	15
Baran	94.4	42.1	42.1	26
Jhalawar	90	50	21.4	21
RAJASTHAN (%)	**93.9**	**34.6**	**34.6**	**722**
* Services based on during last one month. ** Based on PHCs functioning on 24 hours basis				

Sources: -DLHS 2012-13 of Rajasthan

Descriptive Statistics

	N	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Std. Error
New born care services	32	92.87	7.838	-1.447	0.414
Referral services for delivery	32	35.2	15.969	-0.302	0.414
Conducted at least 10 deliveries	32	36.44	18.763	0.181	0.414
Valid N (list wise)	32				

Partial Correlation

Correlations

Control Variables			New born care services	Referral services for delivery
Conducted at least 10 deliveries	New born care services	Correlation	1	-0.005
		Significance (2-tailed)	.	0.979
		df	0	29
	Referral services for delivery	Correlation	-0.005	1
		Significance (2-tailed)	0.979	.
		df	29	0

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

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1	(Constant)	40.98	41.551		0.986	0.33
	New born care services	-0.126	0.437	-0.052	-0.29	0.78
	Referral services for delivery	0.202	0.215	0.172	0.942	0.35

a. Dependent Variable: Conductedatleast10deliveries

Results &Findings: -

According to analysis, the data shows Rajasthan as havinga diversified situation in all manners in comparison to India. Furthermore, in districts of Rajasthan,thereis diversified status in population, education, CDR, CBR, Health infrastructure & facility etc. Consistent with the data census of 2011 the total population of Rajasthan is 6.86 Crore and Jaipur, Jodhpur, Udaipur having maximum population, in other side Jaisalmer, Pratapgarh, sorohi have minimum population's district in Rajasthan. Census 2011 data showing the 24.7 is crude birth rate for Rajasthan; according to district wise data Barmer has maximum CBR and Chhitorgrah has minimum.The crude death rate has in Rajasthan according to the census 2011 within the range of 5.7 to 8.7 indistricts. SRS bulletin 2020 results showing the huge disparities between the India and Rajasthan, this is also indicative towards low level health facility of Rajasthan. District wise data of deliveries conducted at Primary Health Centre (PHC) also show the diversified and un-similarity between districts of Rajasthan. The selected data related with new born services, referral services for delivery and conducted at least 10 deliveries in Primary Health Centre according to the district level family and household survey 2012-13. The mean for new born care services for all districts is 92.87% and for Rajasthan is 93.9 % of populations are covered in primary health center.And the result shows that average of districts and State means that they don't have significant difference in new born care services at PHCs. The results of Jaisalmer, Barmer, Karoli not showing the satisfactory performance by PHCs and PHCs of Bikaner, Dausa, Dholpur, Pali and bhilwara showing the 100% results in terms of new born care services. Among those districts where PHCs have provided services for conducting the deliveries, the highest (85 percent) of the PHCs in Sawai Madhopur district has conducted at least 10 deliveries and PHCs of Hanumangrah and Dholpur are not performing well.

Under the correlation analysis we had taken the variable 'conducted at least 10 deliveries' as control variable. The correlation between the control variable and new born care services show the positive relation (+1) and the negative relation (-.005) between control variable and referral for delivery to PHCs.Coefficient between all three variables of primary health center show the significant difference between the health facilities provides by PHCs. The value of 0.287 is for new born care services and for referral services for delivery 0. 942.These results show that there is a significant difference variable. The value of beta for new born care services .052 and for referral services for delivery .172 shows that there are disparities in health facility provided by primary health centers in districts of Rajasthan.

This research paper clearly presents those disparities in major health indicators. The districts of Rajasthan are significantlyreliant on geographical, educational social and economic inequalitydiagonally the districts. In this

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scenario, medical health care system in Rajasthan is not sufficient or organized to include COVID-19 spread, mainly in many heavily populated districts for the reason that of the shortage of health centers, doctor, hospital bed, and tools. The COVID-19 epidemicproved challenging due to the scarcity of testing facilities, feebleinspection system and above everypitiable medical care. The impact of this epidemic, and mainly the lockdown policy, are the multi-dimensional. The government's health policies must call attention to reducing inequalities at the source and try to improve the health facilities in all districts of Rajasthan.Doctors still believe that the third wave of COVID-19 may come; the number of cases is also increasing in many cities. Therefore, the government should provide more health facilities in the all districts of Rajasthan. The government needs to acquireinstantladder to manage the reach of COVID-19 and its after things and to utilize this prospect to make stronger and get better its primary medical &health care structure in all districts.

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ISSN: 2581-9925
Impact Factor 6.882

INTERNATIONAL JOURNAL OF EDUCATION, MODERN MANAGEMENT APPLIED SCIENCE & SOCIAL SCIENCE (IJEMMASSS)

A bi-lingual Multidisciplinary Quarterly Peer Reviewed Refereed Journal

Vol. 04 | No. 04(II) | October-December, 2022

Indexing Status: IJEMMASSS is Indexed and Included in:
COSMOS Foundation & Electronic Journal Library EZB, Germany
International Scientific Indexing (ISI) || General Impact Factor (GIF)

International Journal of Education, Modern Management Applied Science & Social Science Vol. 04 No. 04(II), Oct-Dec., 2022

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International Journal of Education, Modern Management, Applied Science & Social Science (IJEMMASSS)
ISSN : 2581-9925, Impact Factor: 6.882, Volume 04, No. 04(II), October - December, 2022, pp. 203-207

A COMPARATIVE STUDY OF MARKETING STRATEGIES OF INDIAN DAIRY INDUSTRY AND NEW ZEALAND'S DAIRY INDUSTRY

Dr. Simmi Choyal*

ABSTRACT

The dairy industry is an important sector in the economy of many countries. India and New Zealand are two countries with a significant presence in the global dairy market. In this article, a comparative analysis will be conducted, of the marketing strategies adopted by the Indian dairy industry and New Zealand's dairy industry. First an overview of the dairy industry in both countries will be provided, including their production and export capabilities. We will then examine the marketing strategies adopted by the Indian dairy industry, including their focus on the domestic market, cooperative structure, and government support. Next, there will be analysis of the marketing strategies of the New Zealand dairy industry, including their focus on export markets, innovation, and supply chain efficiency. Finally, a comparison and contrast of the marketing strategies of the two countries and recommendations for improvement will be provided. Through this comparative analysis, aims to identify the strengths and weaknesses of the marketing strategies adopted by the Indian dairy industry and New Zealand's dairy industry. This study will also examine the impact of various factors such as government policies, infrastructure, and technology on the marketing strategies of both countries. This article will be beneficial for policymakers, industry experts, and researchers who are interested in the dairy industry and international trade. By providing insights into the marketing strategies of two significant players in the global dairy market, this article aims to contribute to the understanding of the factors that influence the success of the dairy industry in different countries.

Keywords: *Milk Production, Dairy Farming Methods, Milk Processing and Packaging, Dairy Product Consumption, Dairy Product Exports, Government Policies and Regulations.*

Introduction

Comparative analysis of the Indian Dairy Industry and New Zealand's Dairy Industry

India and New Zealand are two of the largest milk producing countries in the world. According to the Food and Agriculture Organization (FAO) of the United Nations, India was the largest milk producing country in the world, accounting for around 22% of global milk production in 2020. On the other hand, New Zealand is known as the "dairy capital of the world" and is one of the top ten milk-producing countries in the world, accounting for about 3% of global milk production in 2020.

The Indian dairy industry is primarily made up of small-scale producers who supply milk to cooperatives for processing and distribution. The industry is dominated by the production of buffalo milk, which accounts for around 55% of total milk production in the country. On the other hand, New Zealand's dairy industry is known for producing high-quality dairy products, including milk powder, cheese, and butter, and it is heavily dependent on its exports.

Following are some of the factors that serves as the basis for comparative analysis:

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Production

India's dairy industry is the largest in the world, with a production of 198.4 million metric tons of milk in 2020. The dairy sector in India is primarily based on small-scale and rural farming practices, with about 70% of the milk production coming from smallholder farmers. The milk is primarily used for domestic consumption, with only a small percentage being exported.

On the other hand, New Zealand is the eighth-largest milk producing country in the world. In 2020, New Zealand produced 21.1 billion litres of milk, with over 4.1 billion litres being exported. New Zealand's dairy industry is based on large-scale commercial farming practices, with most of the milk production coming from a small number of large dairy companies. New Zealand is the world's largest exporter of dairy products, with over 95% of its milk production being exported to countries such as China, the United States, and Japan.

Consumption

In terms of milk consumption, India is the largest consumer of milk in the world, with an average per capita consumption of 394.7 kg per year. The dairy industry in India primarily caters to the domestic market, with most of the milk and milk products consumed within the country. In contrast, New Zealand is a net exporter of dairy products, with the majority of the dairy products produced in the country exported to other countries.

Farming Techniques and Technologies

The dairy industry in India is characterized by small-scale dairy farming, with the majority of dairy farmers having less than five cows. The cows are primarily fed on natural grass and other locally available feed, with minimal use of supplements. The milking process is often manual, and milk is transported to local markets in cans or plastic containers.

In contrast, the dairy industry in New Zealand is characterized by large-scale farming operations, with farms averaging around 400 cows. The cows are primarily fed on pasture grass, supplemented with maize and other grains. The milking process is often automated, with most farms using milking machines to extract milk. The milk is transported to processing plants using specialized tanker trucks.

- **Processing**

India has a vast network of milk processing plants, with over 100,000 milk collection centres and about 400 dairy processing plants. The processing plants in India are mostly small-scale, and the milk is processed into various products like ghee, butter, and yogurt, which are consumed domestically. In contrast, New Zealand's dairy industry is primarily export-oriented, with a significant portion of the milk processed into high-value products like cheese, butter, and milk powder.

- **Quality Control and Safety Standards**

The Indian dairy industry has been criticized in the past for its lack of quality control and safety standards. The sector is primarily made up of small-scale farmers, making it difficult to implement and enforce quality control measures. The use of antibiotics and growth hormones in milk production is widespread, with many farmers using these substances to increase milk yield.

New Zealand has strict quality control and safety standards in place for its dairy industry. The country's dairy products are subject to rigorous testing and inspection, ensuring that they meet strict quality and safety standards. The use of antibiotics and growth hormones in milk production is prohibited, and farmers who violate these regulations are subject to fines and other penalties.

- **Technology**

New Zealand has adopted advanced technology and farming practices to increase milk production. The country has a high level of automation in its dairy farms, with milking machines and other equipment being widely used. In comparison, the Indian dairy industry still relies on manual labor for milking and other dairy activities.

- **Products**

New Zealand's dairy industry is not only focused on milk production but also on the production of various dairy products like cheese, butter, and yogurt. The country has developed a strong export market for its dairy products. In contrast, the Indian dairy industry is mainly focused on milk production, and the production of other dairy products is limited.

- **Market**

  New Zealand's dairy industry is heavily reliant on exports, with around 95% of its dairy products being exported to various countries. In comparison, the Indian dairy industry is mainly focused on meeting the domestic demand for milk.

- **Marketing**

  The marketing strategies used in the Indian dairy industry and New Zealand's dairy industry also differ significantly. In India, dairy products are mainly sold through traditional channels such as local markets and small shops. The dairy industry in India is highly fragmented, with a large number of small players competing in the market. In contrast, New Zealand's dairy industry is dominated by a few large companies that have a significant presence in the global market. The industry is highly export-oriented, with most of the milk produced being processed into products such as butter, cheese, and milk powder and exported to markets around the world.

Consumer Preferences

Consumer preferences also play a significant role in the differences between the Indian dairy industry and New Zealand's dairy industry. In India, dairy products such as milk, yogurt, and ghee are an integral part of the traditional diet, and consumers prefer fresh, unprocessed products. In contrast, consumers in New Zealand and other developed countries prefer processed dairy products such as cheese and butter, which have a longer shelf life and can be easily transported.

- **Environmental Impact**

  The dairy industry in India has a significant environmental impact, with the sector being responsible for a significant amount of greenhouse gas emissions. The use of natural resources such as water and land is also a concern, with many small-scale farmers using unsustainable farming practices.

  New Zealand's dairy industry has a relatively low environmental impact, with the sector being subject to strict environmental regulations. Farms are required to implement sustainable farming practices, including measures to reduce greenhouse gas emissions and minimize the use of natural resources.

Employment

The dairy industry is a significant employer in both India and New Zealand. In India, the dairy sector provides employment to about 100 million people, mostly in rural areas. The majority of the workforce is involved in milk production, with a small portion involved in processing and marketing. In New Zealand, the dairy industry is a significant employer, providing employment to about 50,000 people, mostly in rural areas. The majority of the workforce is involved in farming and processing activities.

- **Government Policies:** The Indian government has implemented several policies to support the growth of the dairy industry, including the National Dairy Plan, which aims to increase milk production and improve the **quality** of milk produced in the country and the National Program for Bovine Breeding and Dairy Development (NPBBDD), which focuses on improving the genetics of dairy animals. The government has also provided subsidies and incentives to encourage farmers to adopt modern dairy farming practices and improve their productivity.

The New Zealand government has also been actively involved in promoting the dairy industry in the country through various initiatives like the Primary Growth Partnership (PGP), which aims to increase the value of the primary sector, including the dairy industry. The New Zealand government has implemented policies to support the growth of the dairy industry, including investment in research and development and promoting free trade agreements with other countries. The government has also implemented environmental policies to reduce the impact of dairy farming on the environment.

Table showing comparative analysis of the Indian dairy industry and New Zealand's Dairy Industry:

Factor	Indian Dairy Industry	New Zealand's Dairy Industry
Milk Production	India is the world's largest milk producer, with a production of 198.4 million metric tons in 2019-20.	New Zealand is the world's eighth-largest milk producer, with a production of 21.1 million metric tons in 2019-20.
Cattle Population	India has a cattle population of around 300 million, including cows and buffaloes.	New Zealand has a cattle population of around 4.9 million, including cows and heifers.

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Dairy Products	India produces a wide range of dairy products such as milk powder, butter, ghee, paneer, and khoa.	New Zealand produces mainly dairy products such as whole milk powder, skim milk powder, and butter.
Market Share	The organized dairy sector in India accounts for around 20-25% of the total market share. The rest is dominated by the unorganized sector, which comprises small farmers and cooperatives.	The dairy industry in New Zealand is dominated by two large cooperatives - Fonterra and Westland.
Milk Processing	Milk processing in India is mostly done through the cooperative sector, with around 170,000 village-level cooperatives operating across the country.	Milk processing in New Zealand is mostly done by private companies, with Fonterra being the largest processor.
Export Market	India is a net exporter of dairy products, with major export destinations including Bangladesh, Nepal, and the UAE.	New Zealand is one of the world's largest exporters of dairy products, with major export destinations including China, the US, and Japan.
Quality Standards	The Indian dairy industry faces several quality challenges, including poor milk hygiene, adulteration, and lack of cold storage facilities.	New Zealand has stringent quality standards for its dairy products, and the industry is known for its high-quality milk and dairy products.
Government Policies	The Indian government has implemented various policies to support the dairy industry, including the National Dairy Plan and the Rashtriya Gokul Mission.	The New Zealand government has also implemented various policies to support the dairy industry, including the Primary Growth Partnership and the Sustainable Farming Fund.

- **Challenges**

Despite the significant growth of the dairy industry in both countries, there are several challenges that both industries face. In India, the dairy industry is largely unorganized, with a large number of small-scale farmers, which makes it difficult to implement standardization and quality control measures. The industry also faces challenges related to animal health and productivity, infrastructure, and marketing.

In New Zealand, the dairy industry faces challenges related to environmental sustainability, animal welfare, and the impact of climate change on dairy farming. The industry is also facing increasing competition from other dairy-producing countries, which has put pressure on prices and profitability.

Conclusion

The dairy industries in India and New Zealand are significantly different, with each country having its unique strengths and weaknesses. India is the largest milk producer in the world, but the sector is primarily made up of small-scale farmers, making it difficult to implement and enforce quality control and safety standards. New Zealand, on the other hand, is the world's largest exporter of dairy products, with strict quality control and safety standards in place. The country's dairy industry has a low environmental impact, with farms being required to implement sustainable farming practices.

The New Zealand dairy industry is a mature, efficient, and technologically advanced industry with a strong focus on exports. On the other hand, the Indian dairy industry is a largely unorganized sector, dominated by small-scale farmers with limited access to modern technology and infrastructure.

The analysis highlights the significant challenges facing the Indian dairy industry, including low productivity, inadequate supply chain infrastructure, and lack of quality control. In contrast, the New Zealand dairy industry has overcome many of these challenges and has emerged as a major player in the global dairy market.

Overall, the analysis underscores the need for India's dairy industry to adopt modern technology and best practices to improve productivity, quality, and efficiency. The Indian government and industry stakeholders need to focus on addressing the fundamental issues such as infrastructure, supply chain management, and quality control to ensure that the industry can compete with global dairy players.

In conclusion, the comparative analysis offers valuable insights into the strengths and weaknesses of the Indian and New Zealand dairy industries. It provides a roadmap for policymakers, industry leaders, and stakeholders to address the challenges and opportunities facing the Indian dairy industry and create a more vibrant and competitive sector in the years to come.

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Vol. 14 No. 01 (II), January 2021 ISSN : 0975-1386

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Wesleyan Journal of Research

An International Research Journal

ISSN : 0975 - 1386

CERTIFICATE OF PUBLICATION

This is to certify that

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for the paper entitled

ROLE OF CUSTOMER SATISFACTION IN HOTEL INDUSTRY WITH REFERENCE TO FOOD QUALITY AND CONSUMER LOYALTY

Volume No. **14** No. **01(II)** **2021**

in

Wesleyan Journal of Research

January - March 2021

UGC Care Approved, Peer Reviewed and Referred Journal

Editor-in-Chief
Dr Fatik Baran Mandal

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Wesleyan Journal of Research , Vol.14 No.01(II)(January 2021) Research Article (Commerce)

ROLE OF CUSTOMER SATISFACTION IN HOTEL INDUSTRY WITH REFERENCE TO FOOD QUALITY AND CONSUMER LOYALTY

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Abstract: Consumer loyalty in the travel industry is a critical boundary for supportability. Aside from site attractions, foundation and others, convenience offices assume a significant part for a place of interest. This paper centers around consumer loyalty regarding administration quality gave by an inn in a traveler site. Reason: Our goal is to decide the elements of those characteristics of administration in such an inn, which would be liable for consumer loyalty and along these lines to make a consumer loyalty model. This investigation found that fulfillment for the most part relies upon two expansive elements of administration quality, one is fundamental help and offices and the other is exceptional administrations. It has risen up out of the examination that the sightseers with advanced education level, couples and higher family unit pay will in general be more fulfilled more with the top-notch administrations of convenience in the inn which are their decision time. Going to a visitor for explicit need and issue, some extra offices like a room administration in a charming way add as per the general inclination of the client. As the visits viable are short and incessant, just to connect with the traveler in relaxation and away from work pressure, little badge of good motion and legitimate consideration convey enormous load on the consumer loyalty.

Key Words: Customer satisfaction, Hotel industry, Service marketing.
Article History
Received: 17/11/2020; Accepted: 15/01/2021

Introduction

One of the greatest contemporary difficulties of the board in assistance ventures is giving and keeping up consumer loyalty. Overpowering client interest for quality items and administration has lately gotten progressively clear to experts in the travel industry and inn industry. Consumer loyalty speaks to an advanced methodology for quality in undertakings and associations and serves the improvement of a genuinely client centered administration and culture. Consumer loyalty estimates offer a significant and target input about customer's inclinations and desires. Promoting and the board sciences now-adays are zeroing in on the coordination of the relative multitude of association's exercises to give products or administrations that can fulfill best explicit requirements of potential customers. Hotels are one piece of accommodation industry, which has advanced from the humble start of families and landowners who opened their homes to explorers.

Lodging industry is the one of the biggest and quickest developing industry in around the world. In this industry, individuals come from better places and remain in the inn. Under the umbrella of cordiality, the need and needs of individuals from home and get great experience interval of movement, dwelling, diversion, café and oversaw administrations (Walker, J R. 2010). Inn industry is changing quickly because of changing in the innovation; lodging director should be professional dynamic in term of visitor inclination, food quality and changing propensity for the client (Liana Victorino, 2005). Food and refreshment office is one of the significant income creating divisions of an inn; it allude stony assistance delivered to delight fundamental human requirement for hunger and the delight of eating and drinking for physiological and mental fulfillment. Food and refreshment administration is the fundamental connection between the client and menu. The administration office assumes the liability for giving clean food to clients the individuals who are remaining in the lodging or stroll in visitor in the eateries. In three-star classes of lodgings have numerous food and refreshment sources, for example, claim to fame eateries, bistro, bar, feast tasks, room administration and chief parlor and so forth in every source, serve various sorts of menu with various style of activities. There are Ala carte, Table demote menu offered with server administration (S. N Bagchi, 2006). Characteristics of administration and consumer loyalty are basic variables for accomplishment of any business. To accomplish consumer loyalty, it is imperative to perceive and to foresee client needs and to have the option to fulfill them. The present inn enterprises confronting one of the significant tests that to support the client for longer time. In this unique situation, positive connections can make client's higher responsibility and increment their bring rate back.

Objectives of the Study

1. To decide the variables of those characteristics of administration in such an inn, which would be answerable for consumer loyalty and accordingly to make a consumer loyalty model.
2. To discover the relationship among food and administration quality and consumer loyalty.

Food Quality

Food quality assumes a significant part in food administration industry. The nature of food related with nature of crude materials, both are useful to build the adequacy of the menu and it will end up being the selling device for the eatery. Food quality is one of the components in client advancement on various classifications of eateries. Numerous analysts had done research on different segments which incorporates taste, surface, shading, introduction, appearance, backup and embellishments. It is anticipating that couple of the clients return to eatery because of good nature of food, in examinations both cheap food source and café food quality consistently in position one situation as contrast with other where visitor take choice to return to café (Cairo, 1993). Clients show their ability to come in the café for taste of food and do return to in future because of nature of food. Clients are prepared to pay extra, if nature of food is acceptable (Ryu et al., 2012). There are five other component of food quality that are food should be serve new, scrumptious food, nutritive incentive in the food, various sorts of menu and engaging of food to clients (Ahmad A. Al-Tit, 2015). Food quality has positive effect on consumer loyalty. The outcome shows that the connection between administration quality and food quality has incredible effect on consumer loyalty, which will help to maintenance of client for future (Young, 2007).

The Concept of Customer Satisfaction

Consumer loyalty alludes to the degree to which clients are upbeat "with the items and administrations gave by a business. The idea of consumer loyalty has pulled in much consideration as of late. The contribution of the client in the conveyance cycle presents an extra factor, which makes the specialist organizations have practically no immediate power over the administration experience. Administrations are commonly depicted regarding four remarkable attributes, to be specific elusiveness, indivisibility, heterogeneity, and perishability. Due to the - hereticalness normal for administrations, the firm may think that it's difficult to see how buyers see their administration and assess administration quality. Henceforth the purchasers' information gets fundamental to the nature of administration performance. The nature of administration can fluctuate from maker to maker, from client to client, and from day to day.

Dynamic Nature of Customer Satisfaction

A few articles study fulfillment in a powerful setting, which uncovers the accompanying three theoretical connections: "1) fulfillment is a component of desires, seen execution, and disconfirmation; 2) aim to repurchase is an element of a consumer loyalty and exchanging obstructions; and 3) decision is an element of desire and goal to repurchase". Kasper (1988) contends that if past examination in buyer conduct has dismissed the possibility that consumer loyalty can change over the long run, it very well might be a genuine oversight, for fulfillment has been demonstrated to be critical indicator of brand choice. Shan McQuay et al (2000) guarantee, "the clearest ramifications is that efficient varieties in consumer loyalty can help clarify changes in item decision, in view of an underlying level of fulfillment and its pace of progress. Such logical force gives an amazing asset to those keen on utilizing consumer loyalty as an indicator of benefit, decision, repurchase conduct, or piece of the overall industry".

Consumer Loyalty

Consumer loyalty and faithfulness happens since customers balance had each organization to be more responsive and more in contact with their particular requirements so client will return once more. Client maintenance is useful for both business and clients. For business it is less expensive to continue existing clients cheerful than to draw in new ones. Dickie (20UJ) expressed tangle five percent expansion in client maintenance brings about a 25 to 95 percent increment in benefits. Expanding steadfastness, thus, has been found to prompt expansions in future income. Besides, various exact investigations show a positive relation between consumer loyalty and client loyalty On the opposite side, for a client, dependability to one association decreases the danger of administration accessibility, considers the advancement of social compatibility with the supplier, and the customization of administrations to his/her particular.

Getty and Thomson (1994) examined connections between nature of housing, fulfillment, and the subsequent impact on clients' expectations to prescribe the housing to planned clients. Their discoveries propose that clients' expectations to suggest are an element of their impression of both their fulfillment and administration quality with the housing experience. The investigation reasoned that there is a positive connection between consumer loyalty and client devotion. Visitors see fulfillment with housekeeping to be a higher priority than fulfillment with gathering, food, and refreshment, and cost when concluding whether to return, suggest, and show devotion to the hotel.

Significance of Customer Satisfaction

The significance of consumer loyalty is unarguable. The chief reason for a business is to make fulfilled clients. Consumer loyalty has immediate and aberrant effect on business results. Consumer loyalty decidedly influences business benefit. Expanding consumer loyalty has been found to prompt higher future profitability and more elevated levels of client maintenance and loyalty. Organizations need to hold existing clients while focusing on noncustomers. Service quality has arisen as an issue of foremost significance for the cordiality industry. It has been distinguished as one of the best (yet troublesome) methods for building a serious position and improving authoritative performance. The lodging business is encountering expanded globalization, rivalry, higher client turnover, developing client procurement cost and rising client desires, implying that inn's exhibition and seriousness is fundamentally reliant on their capacity to fulfill clients proficiently and effectively. In the present friendliness climate, the genuine proportion of organization.

Achievement lies in an association's capacity to fulfill clients constantly. The way to maintainable upper hand in the present serious

climate lies in conveying top notch administration that bring about fulfilled customers Service quality has an emphatically identified with client maintenance and client unwaveringness, administration directly affects organization benefits.
To upgrade productivity and visitor fulfillment, inns should now-a-days center around executing Customer Relationship Management (CRM) methodologies that expect to look for, accumulate and store the correct data, approve and share it all through the whole association and afterward use it all through all authoritative levels for making customized, extraordinary visitors' experiences. Failure focus on compelling qualities in decision aim may bring about a client's negative assessment, and may prompt ominous verbal.

Lodging Attributes and Customer Satisfaction
Alpert (1971) named those qualities, which straightforwardly impact shopper decision as 'determinant' attributes. Because of the elusiveness, indivisibility, fluctuation, and perishability of administrations, purchasers' impression of fulfillment rules may incorporate logical signs that they use to assess the administrations before. Wust et al (1996) characterizes view of lodging ascribes as "how much voyagers find different administrations and offices significant in advancing their fulfillment withhotel remains." Various investigations have recognized various traits as rules to gauge the consumer loyalty. Challan (1996) distinguished 166 lodging credits.
The majority of the voyagers would consider the accompanying lodging ascribes when settling on an inn decision choice: tidiness, area, room rate, security, administration quality, and the standing of the inn or chain. Cleanliness of convenience, wellbeing and security, convenience esteem for cash, and politeness and support of staff were the indispensable properties in lodging decision selection. Wilensky and Buttle (1988) guarantee that individual help, actual engaging quality, open doors for unwinding, standard of administrations, engaging picture, and incentive for cash were essentially assessed by travellers. The investigation of Rivers et al (1991) shows that accommodation of area and in general assistance got the most noteworthy appraisals.
The investigation by Roger J. Callan and Gabrielle Kyndt (2001) distinguishes the accompanying as the main ascribes: "Security 93 percent; reservation unwavering quality 89 percent; quietness of room 87.2 percent, state of being of the lodging 83 percent, and area 81 percent. Mehta and Vera (1990) recognize four significant characteristics viz. tidy up rooms and different territories (94.4 percent); lodging security (92.4 percent); generally speaking inn administration (90.2 percent); helpful area (90%); lastly, registration administration (87.8 per cent). Salesh and Ryan (1992) found that tidy up rooms (97 percent); solace of bed (958 percent); calm remain (95.2 percent; safe inn (92.4 percent); and advantageous area (91.2 percent) as the significant properties to quantify the consumer loyalty.
The success or failure of a restaurant revolves around several variables and their interplay with each other.

Fig-1.1: Factors Contributing to Success of a Restaurant

Hotel Industry
A few articles study fulfillment in a powerful setting, which uncovers the accompanying three calculated connections: "1) fulfillment is a component of desires, seen execution, and disconfirmation; 2) goal to repurchase is an element of a consumer loyalty and exchanging obstructions; and 3) decision is an element of desire and expectation to repurchase".Kasper (1988) contends that if past examination in purchaser conduct has disregarded the possibility that consumer loyalty can change over the long run, it very well might be a genuine oversight, for fulfillment has been demonstrated to be huge indicator of brand choice.16 Shan McQuay et al (2000) guarantee, "the most clear ramifications is that deliberate varieties in consumer loyalty can help clarify changes in item decision, in view of an underlying level of fulfillment and its pace of progress. Such informative force gives an integral asset to those keen on utilizing consumer loyalty as an indicator of benefit, decision, repurchase conduct, or piece of the overall industry".

Conclusion
As the cordiality business turns out to be more serious, financial weights increments and the business keeps on growing, there is an undeniable need to hold customers just as expanding benefit. It is along these lines obvious that cordiality the executive's experts

need to endeavor to improve visitor fulfillment. This examination can be of incredible assistance to inn organization giving away on the most proficient method to lead and alter the current act of estimating consumer loyalty in lodgings. The motivation behind this investigation is to recognize the necessities and impression of lodging clients dependent on their degree of their fulfillment regarding Shri Shyam hotel gathering of inns in Japur. Different contrasts and similitudes in the fulfillment level of the respondent clients have been talked about. By and large, the information investigation demonstrated that the outcomes were solid and shown a decent proportion of inspecting ampleness.

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ASCENT INTERNATIONAL JOURNAL FOR RESEARCH ANALYSIS
(A Bi-Lingual Multi-Disciplinary Peer Reviewed International Quarterly Journal)
July-September 2021 Vol. VI ISSUE. III Impact Factor (PIF) 3.455, Indexed in I2OR, Rigisterd & Listed

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AIJRA Vol. VI Issue III www.ijcms2015.co ISSN 2455-5967

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Customer Relationship Management: Challenges and Opportunities in Banking

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**Dr. Vinita Jain

Abstract

One of the unique challenges of business banking in digital world is meeting customer expectation. Great competition between bank institutions makes these organizations think of how to improve relationships with their potential and prospective clients to become market leaders. Customer Relationship Management has become inexorable for growth and profitability of Banks in present scenario due to rising competition, technological advancement and empowered customers. Customer relationship management helps bank to improve communication and interaction with the customers. A good CRM can help banks to make new customers, close the deal and along with that provide excellent customer service. The paper investigates the challenges and opportunities faced by banks in managing customer relationship in era of cut-throat competition.

Keywords: Customer Relationship, Empowered Customer, Business Banking.

Introduction:

CRM originated in early 1970s when the business units had a manifestation that it would be advisable to become 'customer emphatic' rather that 'product emphatic' CRM is a business model that aligns product and sales strategies with customer requirements and preferences .The concept of customer relationship management started in the early 1970s, when customer satisfaction was evaluated using annual surveys or by front-line asking. Because of customer demands and increasing competition, banks need to adopt a modern, customer-focused approach to service, making the importance of a CRM in the banking industry more valuable than ever before. Customer Relationship Management (CRM) came into the power when banking institutions were getting more and more competitive. The focus of CRM helped banks to understand the customer's current needs, what they have done in the past, and what they plan to do in the future to meet their own goals Customer Relationship Management (CRM) has a massive influence in the service sector, to win and hold customers for long-term efficiency. The lack of understanding of Customer Relationship Management (CRM) is always a concern among the service providers especially banks. Banks have their own way of managing their relationships with the customers. However, the perception of customers on CRM practices among banks should also be taken into consideration. CRM activity attends the needs of customers without delay in time, the banks can create more awareness to customers and can create a customer database very significantly. Hence the concept of CRM may be emphasized so that the customers are treated royally in relation to banking services. Thus the banks need to improve the customer satisfaction in the utilization of various modern banking services and should provide more customer friendly services to make the modern banking activity a delight for the customer to use.

Research methodology

The study is analytical in nature and it uses secondary data which is collected from a number of sources including research papers, books, articles, newspaper, magazines, publishes unpublished bulletins of reserve bank of India

Objective of study

To understand customer relationship management in banking sector

To understand challenges and opportunities of customer relationship management in banking

Challenges of CRM in the Banking Industry

Originally customer relationship management was based on three major principles; shielding the current customers, fostering new customers and enhancing asset value of all the customers. With the advent of CRM system eventually emerged as consisting of company-full of information which is depicted sophistically to increase business profit and meliorate customer satisfaction and loyalty, on the same hand reduces business cost and investment.

The banking industry is very sensitive to data security and aims to deliver an extra level of control over access to their records. Besides their clients' personal information and account records, the entire banking system should be well protected against cyber-attacks and malicious software

Manage on boarding customers with existing ones alike is a tedious task for businesses, especially in the banking sector. CRM in banking helps the banking industry to elevate business functions as systematized for attracting more customers.

Another problem generally faced by a bank in implementing CRM is resistance to change. The banking industry is facing major transformation in:

- Market : changing from sellers' market to a customers' market,
- Economy: regulated economy to a more liberalized and open economy,
- Technology: high advancements in technology.

Thus it is forcing the banks to change the way they do business. A change denotes making things in a different manner. Now the things should be properly planned, proactive and dedicated to a defined. This in turn requires two things:

1. Increase in the ability to adapt changes in the business environment.
2. Training and motivating the employees so that it develops skills, right attitude, expectations, perceptions and behavior.

Implementation of CRM in Indian banking is still in its nascent stage and has to travel long and tough path in order to raise it to the global standards. But the Indian private banks in association with their public counterparts are considering the issue on a large scale in order to remain competitive to foreign and other private sector banks.

Challenges for CRM Implementation

The most persistent challenges faced by banks in effectively using knowledge about their customers include:

- Difficulty in obtaining a complete insight about their customers
- Need to move away from disorganized, individual, and unreliable channels to provide an organized, multichannel offering
- Problem of separate legacy systems and different databases that store client financial data
- Cost and difficulty in meeting rigorous government regulations, client security and privacy requirements
- Pressure on margins and growth prospects from increased competition

- Costs related to retaining the bank's customers and increasing customer loyalty

Steps to Customer Relationship Management

- **It is essential for the sales representatives to understand the needs, interest as well as budget of the customers**. Don't suggest anything which would burn a hole in their pockets.
- **Never tell lies to the customers**. Convey them only what your product offers. Don't cook fake stories or ever try to fool them.
- **It is a sin to make customers waiting**. Sales professionals should reach meetings on or before time. Make sure you are there at the venue before the customer reaches.
- **A sales professional should think from the customer's perspective**. Don't only think about your own targets and incentives. Suggest only what is right for the customer. Don't sell an expensive mobile to a customer who earns rupees five thousand per month. He would never come back to you and your organization would lose one of its esteemed customers.
- **Don't oversell**. Being pushy does not work in sales. If a customer needs something; he would definitely purchase the same. Never irritate the customer or make his life hell. Don't call him more than twice in a single day.
- **An individual needs time to develop trust in you and your product**. Give him time to think and decide.
- **Never be rude to customers**. Handle the customers with patience and care. One should never ever get hyper with the customers.
- **Attend sales meeting with a cool mind.** Greet the customers with a smile and try to solve their queries at the earliest
- **Keep in touch with the customers even after the deal**. Devise customer loyalty programs for them to return to your organization. Give them bonus points or gifts on every second purchase.
- **The sales manger must provide necessary training to the sales team to teach them how to interact with the customers**. Remember customers are the assets of every business and it is important to keep them happy and satisfied for successful functioning of organization.

The Business Benefits of Using a Banking CRM

According to a global study of financial service customers, Accenture found that 67 percent are willing to provide more information to banks if it means they will receive new benefits and 71 percent said they would use entirely computer-generated support for their banking processes.

1. Leverage a 360-Degree View of Every Customer

A banking CRM is a consolidated system that can integrate with your other banking software programs to provide a single view of every customer account. From making a deposit at an ATM to requesting information about a certain type of loan, every pre-determined action a customer takes can be recorded in your CRM. This makes it quick and easy to gain deeper insights into their habits and personal preferences, which can help you, align certain products to their financial goals.

2. Improve Customer Retention

With customers opting for online banking solutions as opposed to in-person experiences, strategizing a way to foster long-term relationships can be difficult for many organizations. With a banking CRM, there is a great deal of data available right at your fingertips, which can be used to proactively deliver personalized services. Since your CRM enables you to record customer notes and personal information, you can enhance every experience. For example, if a bank teller adds a note to a customer profile that says they were asking questions about a certain type of loan, the loan department can follow up by emailing them helpful resources that explain their options. Showing your customers that you're listening to them and making efforts to improve their experience at your bank is a strategic way to promote loyalty.

3. Enable Quicker Processes

With a single, unified system, any bank employee can access a customer profile to quickly get up to speed on an account. For example, if a customer contacts a call center, the employee they speak with can make real-time updates to their profile in the CRM. When the customer visits their local bank branch, the bank tellers will be able to see notes from their interaction with the call center. This can eliminate any duplicate conversations and provide the bank teller with a holistic understanding of the customer's situation.

4. Use Insights to Improve Sales and Marketing Efforts

The data in your CRM can be compiled into reports so you can gain a much deeper understanding of your customers. From there, you can identify trends, successful campaigns, and areas for improvement that will help you anticipate customer needs and tailor your future marketing efforts. You can also use the data in your customer profiles to pinpoint areas for cross-selling and upselling. For example, if a customer makes a deposit inside the bank, the teller can have a full view of their profile and notify the customer of new products they may be interested in or qualify for, such as a platinum credit card.

5. Make bank Staff More Productive

With all customer information available under one CRM system, there's no need for employees to search through emails or check multiple platforms for the answer to a quick question. Repetitive administrative tasks are eliminated so employees spend less time scrounging through data and more time fostering client relationships.According to Nucleus Research, sales representatives saw a productivity increase of 26.4 percent when social networking and mobile capabilities were utilized in their CRM. Users can also access a CRM from any device, such as a laptop, desktop, or smartphone, meaning there's no limitation to where and when data can be viewed.

Conclusion

A bank's ability to identify customer needs, segment customers and build accurate customer profiles, all depend on how effectively it collects, manages and uses customer data. Banks need to realize which type of information they need, harvest it carefully, store it safely, keep it updated and use it proactively to cross- sell, improve customer experience and deepen relationships. Today data access is no longer a challenge, rather banks have access to loads of customer information, but the challenge still lies in converting this into business advantage. This implies that CRM needs to address the gap of converting data into customer insights which proliferates profitable customer relationships across multiple touch points. The strategic framework suggested for effective implementation of CRM emphasizes the importance of understanding CRM as an organization wide strategy and need for alignment of bank's culture and processes to bring customer centricity at the core of operations.

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A Study on Working Capital Management on Selected Dairies in India

Dr. Ashish Gupta*
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Abstract

Dairy Sector is a very unorganized and unpredictable sector in India. In this sector a very high percentage of Current Assets and also a major part of current assets is parked in the inventories, debtors and liquid assets (for daily and weekly payment for milk supplier). Working Capital Management (WCM) is an essential part of financial management of any Business and sector. WCM are considering important Factor to secure success of enterprises and on the other hand effective use of working capital management its increase profitability and liquidity position of the Business. The main objective of this study is to have a comprehensive analysis of Working Capital Management in selected dairies in India. The study will help us in light the importance of working capital management as an essential tool for sure success of dairy and milk related product business. In this study various financial ratios are used to measure liquidity and profitability of the selected dairies. The study is based on five years secondary data start from 2015-16 to 2019-20. The secondary data has been analyzed through financial ratio and statistical tools such as Average. Hypotheses are tested with one way ANOVA and Correlation to established relation between various ratios of selected dairies.

Keywords : working capital management, liquidity, profitability & dairies.

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different views and ideas. Following researches have been found to be extremely helpful research Paper -

Deb and Dey (2019) was analyzed that working capital management practices of selected Indian steel companies was satisfactory results in their study period. It has been found the that a major part of the current assets was maintained in the form of stocks or inventory analyze that results can be further strengthened if companies are able to manage its wo capital with more effective ways.

Maheshwari (2014) studied the Indian steel industry by selecting top four Indian steel comp include SAIL. This study shows that the financial performance of steel industry is satisfac Efficient use of working capital management play a vital role in maintain better liquidi profitability of the business

Ashutosh Verma, (2009) "Working Capital Management in Gujarat Cooperative Marketing Federation". To identify whether the liquidity management and the financ working capital of GCMMF have undergone change or not is of liberalization.

Objectives of the Study

- To study the components of working capital management of selected dairies in India
- To analyze relationship among the selected dairies.

Hypothesis of the Study

H_{01} – There is no significant difference between Working Capital Ratios of selected Dairies

H_{02} – There is no significant difference between Current Ratios of selected Dairies

H_{03} – There is no significant difference between Quick Ratios of selected Dairies

H_{04} – There is no significant difference between Cash Position Ratios of selected Dairies

H_{05} – There is no significant difference between Debtor Turnover Ratios of selected Dairies

H_{06} – There is no significant difference between Inventory Turnover Ratios of selected Dairies

H_{07} – There is no significant difference between Net Profit Ratios of selected Dairies

H_{08} – There is no significant difference between Return on Investment Ratios of selected Dairies

Research Methodology

The study has covers four Indian dairies which are Kwality, Prabhat Dairy, Umang Dairy Vadilal. The study is based on secondary data which is collected from various sources Annual Report, books, journals and selected dairies websites under the study. In this various financial ratios used to measure working capital management, liquidity position profitability of selected dairies like current ratio, quick ratio, cash position ratio, debtor turnover ratio, inventory turnover ratio, net profit ratio and return on investment ratio

Limitation of the Study

The study is based on secondary data. The study cover only five year working capital position by the selected dairies, before and after trend is not considered in the study. This study period cover period of full lockdown in India, which have a big problem of income.

Working Capital Analysis

Table 1: Current Assets, Current Liabilities & Net Working Capital of Selected Dairies

Dairies	Years	2019-20	2018-19	2017-18	2016-17	2015-16	Averages
Kwality	Current Assets	27.38	79.86	2,517.45	2,005.39	1,791.23	1284.263
	Current Liabilities	2,255.93	2,260.65	1,598.75	1,233.93	1,233.77	1716.606
	Net Working Capital	(2,228.55)	(2,180.79)	918.70	771.46	557.46	-432.344
Prabhat	Current Assets	1,963.30	1,287.07	286.37	319.55	374.25	858.188
	Current Liabilities	1,540.22	744.47	185.3	232.86	101.76	560.922
	Net Working Capital	423.18	542.60	101.07	146.69	272.49	297.266
Umang	Current Assets	82.79	49.32	56.76	50.26	49.53	57.732
	Current Liabilities	77.54	46.64	53.32	57.56	41.49	55.31
	Net Working Capital	5.25	2.68	3.44	-7.3	8.04	2.422
Vadilal	Current Assets	16.64	20.86	22.88	19.37	15.54	19.058
	Current Liabilities	7.26	12.12	10.84	11.55	13.38	11.03
	Net Working Capital	9.38	8.74	12.04	7.82	2.16	8.028

Source: Annual Report of Selected Dairies (Data in Cr.)

Table-1 is showing Current Assets, Current Liabilities and Net working Capital of selected Four Dairy under the study. It has been found that selected all dairies have positive net working capital except Last two years in Kwality ltd which has negative net working capital and also a highest negative average of net working capital. On other hand highest positive net working capital of Prabhat dairy this is a good indication for business. Moreover, net working capital of the selected four dairies has been given in the table above.

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Introduction

India is the largest and one of the most economical producers of milk and dairy products ... world. It is one of the largest producers as well as consumers of milk and dairy products ... dairy industry provides livelihood to millions of homes in urban as well as rural areas. With a ... supply of quality milk and milk products to people in both urban and rural areas ... the country's increasing demand for milk and milk products, the Indian ... Due to their rich nutritional qualities, the consumption ... industry has been growing rapidly ... milk and related dairy products has been growing exponentially in India.

Working Capital management is the management of assets which are current in nature. Working Capital is the excess of current assets over current liabilities. The goal of working capital management is to manage the current assets and liabilities in such a way that acceptable level of net working capital is maintained. There are two types working capital, first is Gross working Capital, and second is Net working Capital. The gross working capital known as Quantitative aspect and the Net working Capital is known as qualitative aspect of working capital.

Brief about of Selected Dairies

Kwality

Kwality Ltd. (Kwality) was incorporated in 1992 as Kwality Dairy (India) Ltd. The company was set up as a backward integration unit of Kwality Ice Creams India Ltd and was acquired by the Dhingra Family in year 2002. Kwality is one of the fastest growing private sector companies with a new range of innovative dairy products and enjoys a large presence in Northern India. Kwality has various milk processing plants with a capacity to handle around ... million litres of milk per day. Currently, Kwality has six manufacturing units located at P... (Haryana), Bulandshahar (UP), Saharanpur (UP), Jarar (UP), Sitapur (UP), and A... (Rajasthan). Further, Kwality has an extensive network of milk chilling centres situated across Rajasthan, UP, Punjab, and Haryana for direct collection of milk from milk suppliers.

To enhance the procurement of wholesome good quality milk directly from the milk suppliers, Kwality has increased milk procurement network in Haryana, Western Uttar Pradesh, Punjab and Rajasthan. Milk producers supply milk directly to the Kwality Village Milk Collection Centre and milk from these centres are brought to Milk Chilling Centres for chilling. Kwality has adopted a producer-centric approach to buy raw milk based on the quality of milk. Kwality has been practising a transparent system for purchase based on testing the milk quality through highly efficient, automatic milk collection units to build confidence among milk suppliers.

Prabhat Dairy

Prabhat Dairy began its journey in 1998 with the vision to be a highly respectable Dairy ... stands firm on its pillars of trust, integrity, quality and innovation. Since then, Prabhat ... flourished as a successful brand for milk and dairy products. The belief of dairy that they a...

...ociates to businesses they link themselves with, our committed partners in progress. What ... and they achieve this success by innovative thinking and a workplace behavior that fosters a ... need to achieve quality and efficiency. Prabhat dairy constantly strive to make sure that ... standards are never compromised, which is why everything they do and produce here at ... Prabhat dairy is of the highest quality. In order to uphold standards, Prabhat dairy remains ... with market knowledge and latest innovations, which help to deliver on the evolving ... customer expectations. The result of these efforts is the continued delight of their end-... customers. Prabhat committed to maintain quality and food safety at all stages of the milk ... processing chain from procurement of milk to dispatch of finished products. Prabhat have ... received several quality certifications for its products and production facilities, including ... certification from Food Safety and Standards Authority of India (FSSAI) for pasteurized milk, flavoured milk, butter, ghee and fermented milk products. AGMARK quality certification by the ... Government of India.

...ang Dairy

...ang Dairies Limited started operation in the year 1994. It has a plant with a combined capacity of processing 11.5 lac litres of milk per day. Plant has the highest standard food safety ... quality certifications i.e. FSSC 22000 to offer the best quality milk and dairy products for ... institutional customers. The dairy plant is located in the heart of the milk bowl - Gajraula (U.P.), ... 110 kms east of Delhi. It is one of the first ISO certified dairy company in India. The ...ang dairy has a wide service network of 600 distributor's and 1.5 lac retailers. Umang Dairies ... is a part of JK Organization, a much respected and diversified conglomerate with a rich ... of over 125 years. The success of JK's ventures is rooted in its sound business model that ... on the latest technology, relentless quality benchmarks, continuous innovation, R&D ... above all, effective marketing.

...dilal

...e story of Vadilal starts from the humble Vadilal Soda Fountain outlet opened in Ahmedabad ... the year 1926. As time passed, it has become famous for its authentic and wide variety of ... flavored Ice creams. Vadilal has evolved experimenting with new flavors and varieties to create ... delicacies enjoyed by many. Today, Vadilal Ice Creams has the widest range of ice creams in ... India with 150 or more flavors available in more than 250 packs and forms. Vadilal has won 27 ... awards over 4 consecutive years, 2008 to 2011 at The Great Indian Ice Cream Contest organized ... the Indian Dairy Association. Vadilal Ice Creams has been voted as the "Most Trusted Ice Cream Brand in India" as per The Brand Trust Report - 2013. The Economic Times Survey ... ranked us among the "Top 20 Food and Beverages" brands in India.

...view of Literature

...searchers have been studying on Working Capital Management since a long time from

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[illegible] ... and debtor turnover ratio shows that F Value is more than its critical value at 5% level, hypothesis rejected it means there is significant difference between Current ratio and Debtor turnover ratio of selected dairies. Null hypothesis accepted in remaining financial ratios it means there is no significant difference in QR, CPR, ITR, NPR and ROI.

Table 10: Correlation Results of Dairies

Ratios	Kwality v/s Prabhat	Kwality v/s Umang	Kwality v/s Vadilal	Prabhat v/s Umang	Prabhat v/s Vadilal	Umang v/s Vadilal
CR	0.07	0.28	-0.66	0.9	-0.64	-0.5[illegible]
QR	0.90	-0.85	-0.44	-0.25	-0.56	0.5[illegible]
CPR	0.74	0.63	0.43	0.06	0.97	0.9[illegible]
DTR	0.53	0.56	0.46	0.47	0.46	0.48
ITR	0.28	0.63	-0.12	-0.53	0.6	-0.1[illegible]
NPR	0.37	0.56	0.58	0.12	0.57	0.41
ROI	0.4	-0.83	-0.41	-0.49	0.3	0.21

Source: Calculated data in MS [illegible]

Table 10 shows correlation between selected dairies under study. It has been found that the [illegible] level positive correlation between Prabhat and Vadilal in CPR (0.97) and second high[illegible] between Kwality and Prabhat dairy in QR (0.90) and remaining all ratios are positive. High[illegible] negative correlation between Kwality and Umang Dairy in ROI was highest (-0.83). Kwality [illegible] Vadilal have maximum number of negative correlation in four ratios and other dairy has [illegible] negative correlations with other dairy. In Current Ratio Vadilal has negative moderate [illegible] relation between three dairies like Kwality (-0.66), Prabhat (-0.64) and Umang Dairy (-0.5[illegible]). Net profit ratio (0.[illegible] to 0.58) and Debtor turnover ratio (0.46 to 0.56) all dairies have po[illegible] correlation values.

Conclusion

In relation to the first hypothesis and first objective it may be concluded that working c[illegible] management of selected dairies is satisfactory in the selected study period. It has been foun[illegible] three dairy out of four dairy Quick ratios was more than their current ratio. Its shows th[illegible] liquid position of the selected dairies is satisfactory and it is a good indication of liquid[illegible] selected dairies. In Individual ratio among using F test, Only Current ratio and Debtor tur[illegible] ratio has significant difference between dairies. On the other hand in correlation table 10 [illegible] between ratio shows mid level positive correlation between dairies it means all dairies are [illegible] efficient in managing [illegible].

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[illegible] report of Kwality
[illegible] report of Prabhat Dairy
[illegible] report of Umang Dairy
[illegible] report of Vadilal Dairy

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Table-5 Liquidity & Profitability Ratios of Umang Dairy

Umang Dairy							
Years	CR	QR	CPR	DTR	ITR	NPR	RC
2015-16	1.19	0.36	2.19	33.15	5.45	3.97	24
2016-17	0.50	0.24	2.39	59.71	5.34	0.76	21
2017-18	0.55	0.53	3.6	29.29	6.6	2.14	24
2018-19	0.58	0.43	3.82	18.95	7.11	2.25	26
2019-20	0.62	0.26	2.59	24.79	3.7	1.15	20
Average	0.71	0.36	2.98	33.18	5.64	2.16	24

Source: Calculated data from Annual R

Table-5 is showing seven ratios of liquidity and profitability of Umang dairy and their aver... In the below table the averages of Liquidity Ratio Like Current Ratio and Quick Ratio is... Low as compare to standard. On the other hand Profitability ratio also very low in compa... other dairies. It is said that Umang dairy Position are not good in liquidity and profitabil... comparison other dairy

Table-6 Liquidity & Profitability Ratios of Vadilal

Vadilal Dairy							
Years	CR	QR	CPR	DTR	ITR	NPR	RO
2015-16	0.77	1.03	10.09	30.19	10.3	7.65	21.5
2016-17	0.89	0.9	9.33	22.34	6.79	0.43	39.2
2017-18	1.07	1.33	10.22	15.87	6.46	6.34	41
2018-19	1.02	1.06	7.94	14.42	0.73	3.7	39.2
2019-20	1.51	1.25	0.66	12.09	6.31	-5.28	43.4
Average	1.05	1.11	7.65	18.96	7.32	3.81	40.5

Source: Calculated data from Annual R

Table-6 is showing seven ratios of liquidity and profitability of Vadilal and their averages. In... below table the average of Quick ratio is more than current ratio which is the good indicat... liquidity of Vadilal. On the other hand profitability is good as compare to Umang Dairy but... was negative net profit ratio in the year 2019-20

Table-7 Averages of Liquidity and profitability Ratios of dairies

Ratio	Kwality	Prabhat	Umang	Vadilal
CR	0.59	1.59	0.71	1.05
QR	4.01	3.33	0.36	1.11
CPR	-37.56	-2.23	2.98	7.65
DTR	2.94	6.60	33.18	18.96
ITR	56.36	183.33	5.64	7.32
NPR	-44.07	11.40	2.16	3.81
ROI	-7.15	35.07	24.64	40.53

Source: Calculated data from Annual Report (2015-16 to 2019-20)

Table-7 is showing averages of seven ratios of liquidity and profitability of selected dairies. The average of three ratios is negative in Kwality and average of one ratio is negative in Prabhat dairy.

Analysis through Testing Hypotheses using F-Test (ANOVA)

Testing the First Hypothesis which is:

H_{01} - There is no significant difference between Working Capital Ratios of selected Dairies.

Table-8 Analysis of Variance of Liquidity and Profitability Ratios of Dairies

Sources of Variance	Sum of Squares	Df	Mean Square	F-Ratio	P-value	F Critical Value
Between Dairies	6013.91	3	2004.64	1.30	0.30	3.01
Within Dairies	36882.82	24	1536.78			
Total	42896.73	27				

Conclusion - Since the computed value of F between Dairies is less than its critical value (3.01) at 5% level of Significance then null hypothesis is accepted that means there is no significant difference between working capital of selected dairies

Table-9 ANOVA Results of Individual Ratios among Three Dairies

Ratio	CR	QR	CPR	DTR	ITR	NPR	ROI
F-Value	0.01	0.06	0.13	0.09	0.13	0.12	0.09
P-Value	5.94	3.01	2.18	10.57	2.18	2.27	3.22
F-Critical Value	3.24	3.24	3.24	3.24	3.24	3.24	3.24
Df	19	19	19	19	19	19	19

Source: Calculated data from financial statements

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Introduction

India is the largest ...

Table 2 Components of Total Current Assets

Dairies	Particular	2019-20	2018-19	2017-18	2016-17	2015
Kwality	Inventories	5.09	12.27	210.13	310.92	14,
	Receivables	15.16	59.23	1,700.81	1,373.47	1,41
	Cash Equivalents	4.72	3.47	80.88	86.61	5
	Other CA	2.41	5.9	525.62	234.4	17
	Total Current Assets	27.38	79.86	2,517.45	2,005.39	1,79
Prabhat	Inventories	8.85	8.24	48.09	47.37	[illegible]
	Receivables	92.38	0.5	92.57	109.11	[illegible]
	Cash Equivalents	495.96	8.18	90.9	132.47	3
	Other CA	1,374.49	1,278.12	48.81	90.6	22
	Total Current Assets	1,963.70	1,287.07	280.37	379.55	37
Umang	Inventories	66.23	31.47	37.18	39.23	3
	Receivables	8.55	11.19	12.42	4.35	5
	Cash Equivalents	4.7	0.37	0.79	0.85	6
	Other CA	3.31	5.9	6.37	5.81	11
	Total Current Assets	82.79	48.32	56.76	50.26	4
Vaddal	Inventories	5.96	6.87	6.75	6.9	[illegible]
	Trade Receivables	3.01	3.21	3.19	2.25	1
	Cash Equivalents	5.11	5.69	6.62	6.63	9
	Other CA	2.50	5.09	6.32	3.58	1
	Total Current Assets	16.64	20.86	22.88	19.36	15

Source: Annual Report of Selected Dairies (Data

Table 2 is showing various components of Current assets like inventories, trade receiva cash equivalents and other current assets. In the above table Kwality has most of the portio current assets in the form of receivable. Prabhat dairy has in other current assets, Umang has in Inventories and Vaddal has equally distributed most of the par of current asse inventories and cash equivalents.

Table-3 Liquidity & Profitability Ratios of Kwality

Kwality Dairy							
Years	CR	QR	CPR	DTR	ITR	NPR	ROI
2015-16	0.87	9.02	2.9	4.45	40.14	2.51	34
2016-17	1.05	6.35	3.02	4.39	19.72	2.67	41.55
2017-18	1	4.35	2.91	4.37	32	1.05	45.58
2018-19	0.03	0.27	-134.56	2.38	170.34	-141.08	-76
2019-20	0.01	0.06	-62.15	4.1	29.58	-85.5	-80.87
Average	0.59	4.01	-37.58	3.94	58.36	-44.07	-7.15

Source: Calculated data from Annual Report

Table-3 is showing seven ratios of liquidity and profitability of Kwality Dairy and their averages. In the below table the averages of three ratios is negative which is Cash Position ratio, Net Profit ratio and Return on investment but remaining four ratio are positive. It is said that Kwality are good in liquidity but not good in profitability.

Table-4 Liquidity & Profitability Ratios of Prabhat Dairy

Prabhat Dairy							
Years	CR	QR	CPR	DTR	ITR	NPR	ROI
2015-16	2.39	6.76	3.45	10.51	33	0.93	53.59
2016-17	1.44	4.34	3.77	10.1	23.88	2.41	57.06
2017-18	1.13	2.54	2.89	0.27	0.57	68.81	56.52
2018-19	1.73	1.73	2.62	1.54	293.66	9.29	59.23
2019-20	1.27	1.27	-22.97	10.59	575.65	-24.43	48.93
Mean	1.59	3.33	-2.23	6.60	185.35	11.40	55.07

Source: Calculated data from Annual Report

Table-4 is showing seven ratios of liquidity and profitability of Prabhat dairy and their averages. In the below table the averages of Cash Position ratio is negative but remaining all ratio are positive. It is said that Prabhat dairy are good in liquidity also good in profitability.

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AIJRA Vol. VI Issue IV www.ijcms2015.co ISSN 2455-5967

भारत में सहकारिता का इतिहास: एक अवलोकन सहकारी बैंकों के विशेष संदर्भ में

*डॉ. गायत्री दीक्षित

सारांश

भारत की अर्थव्यवस्था में कृषि का सर्वाधिक महत्व है क्योंकि इससे देश की 60% जनसंख्या कृषि एवं कृषि आधारित उद्योग धन्धों पर जीवन निर्वाह करती है। राष्ट्रीय आय में लगभग आधा योगदान कृषि का है। देश के निर्यात का लगभग 70% कृषि एवं कृषिगत उद्योगों पर आधारित है। इसी कारण भारत की समृद्धि के लिये कृषि की प्रगति एवं समृद्धि आवश्यक है। कृषि का महत्वपूर्ण योगदान होने के बावजूद भी यह दुःखद स्थिति है कि ग्रामीण जनसंख्या का लगभग 90% भाग गरीबी रेखा से नीचे है तथा इसमें से अधिकतर ऋणग्रस्त है। कृषकों की आर्थिक दशा को सुधारने एवं ऋणदाताओं के चंगुल से बचाने के लिए यह अति आवश्यक है कि

सरकारी वित्तीय संस्थाओं द्वारा योजनाबद्ध रूप से समय पर कृषि के विभिन्न उद्देश्यों की प्राप्ति हेतु पर्याप्त राशि में साख देने की व्यवस्था की जाए। भारत सरकार ने किसानों व दस्तकारों को महाजनों के शोषण से बचाने हेतु सर्वप्रथम सन् 1904 में "सहकारी साख अधिनियम" पारित किया। इस अधिनियम के बाद ही भारतीय सहकारी आन्दोलन का व्यवस्थित विकास प्रारम्भ हुआ। इस अधिनियम ने ग्रामीण किसानों को सस्ती दर पर ऋण सेवा उपलब्ध कराने में काफी मदद की। इसके बाद में सन् 1912 में एक सहकारी समिति अधिनियम पारित किया गया जिसमें सहकारी आन्दोलन को नई प्रेरणा मिली और सहकारिता के विकास में तीव्रता आई। भारत सरकार ने स्वतन्त्रता के बाद सन् 1951 में सहकारी आन्दोलन में तीव्रता लाने हेतु श्री ए.डी. गोरवाला की अध्यक्षता में "अखिल भारतीय ग्रामीण साख सर्वेक्षण समिति स्थापित की। इस समिति की रिपोर्ट के सुझावों के आधार पर पंचवर्षीय योजनाओं के माध्यम से सहकारी आन्दोलन का विकास विभिन्न क्षेत्रों में सन्तुलित रूप से आरम्भ हुआ।

मुख्य बिंदु : अर्थव्यवस्था ,कृषि,सहकारिता ,आन्दोलन ,साहूकार,बैंक, रजिस्टार,समितियां

परिचय

भारत में सहकारिता आन्दोलन का प्रारम्भ वर्ष 1904 में हुआ था। इसके बाद भारतीय समाज में अपनी जड़ मजबूत करता हुआ और सफलता की कई सोपान पार करता हुआ यह आन्दोलन वर्ष 2004 में 100 वर्ष में प्रवेश कर गया। सहकारिता आन्दोलन का इतना लम्बा सफर और भारतीय अर्थव्यवस्था में उसका योगदान अपने आप में एक महान उपलब्धि है। इन उपलब्धियों को लेकर देश की शीर्षस्थ सहकारी संस्थाएं विभिन्न स्तर पर सहकारिता के प्रचार-प्रसार का कार्यक्रम चला रही है।

20वीं शताब्दी के प्रारम्भ में साहूकारों के कर्ज के जाल में फंसे भारतीय किसानों ने जब पाया कि इस आन्दोलन से उन्हें खेती के लिए कम ब्याज दर पर धन मिल सकता है, साहूकारों के बोझ से उन्हें मुक्ति मिल सकती है और उनके पैदावार का उचित मूल्य पर बिकवाली का प्रबंध हो सकता है तो उन्होंने व्यापक करीब तौर पर स्वतः इस आन्दोलन को स्वीकार किया और इसे सफल बनाने में महत्वपूर्ण भूमिका निभाई। दो दशक के अंतराल के बाद सहकारिता आन्दोलन से देश के कृषकों को जो लाभ मिला उससे सामाजिक और राजनीतिक स्तर पर सहकारिता के प्रति लोगों का विश्वास पक्का हुआ। इसके बाद लोगों ने सहकारिता आन्दोलन का जनाधार बढ़ाने के उद्देश्य से इसे ग्रामीण परिवेश से निकलकर शहरी क्षेत्र में रहने वाली मध्यवर्गीय जनता, संगठित क्षेत्रों में कार्यरत जनता और निम्नवर्ग की जनता के जीवन की जरूरत की चीजों की पूर्ति करना अपना उद्देश्य माना। इस तरह सहकारिता आन्दोलन में नए वर्ग का उदय हुआ।

उद्देश्य

1 कृषि के उत्पादन क्षेत्र में भागीदारी
2. पर्याप्त उत्पादन हेतु किसानों को ऋण की सुविधा उपलब्ध करना|
3. उत्पादकों को उपयोगी ऋण उपलब्ध करना
4. दिए गए ऋण के उचित उपयोग का निरिक्षण एवं पर्यवेक्षण करना
5. छोटी छोटी बचत को अंश पूंजी और स्थाई जमा के रूप में प्राप्त करना
6. ऋण की वसूली करना।
7. कृषि विपणन में सहायता करना।
8. कृषकों को आवश्यक वस्तुओं का वितरण करना।
9. कृषि पदार्थों का संग्रह करना।
10. उपयुक्त उद्देश्यों के लिए केंद्रीय संस्थाओं से ऋण प्राप्त करना।

सहकारिता (Co-operation)

सहकारिता का सामान्य अर्थ मिलकर काम करने से है। दूसरे शब्दों में सहकारिता आर्थिक संगठन का ऐसा रूप है जिसमें व्यक्ति स्वेच्छा से समानता के आधार पर अपने आर्थिक हितों की रक्षा के लिये संगठित होते हैं। सहकारिता का आशय एक दूसरे का शोषण करने की भावना न रखते हुए परस्पर सहयोग से मिलजुल कर काम करने से है। अतः सहकारिता एक ऐसा दर्शन है जिसमें पूँजी के स्थान पर व्यक्ति अधिक महत्वपूर्ण है तथा जिसका प्राथमिक उद्देश्य समुदाय की सेवा करना है।

सहकारिता के अर्थ को अन्तर्राष्ट्रीय श्रम संघ (I.L.O.) द्वारा भी इन शब्दों में परिभाषित किया गया है कि "सहकारिता सीमित व्यक्तियों का एक संगठन है जो समान आर्थिक कठिनाईयों से जूझ रहे होते हैं। जो समान अधिकार तथा कर्तव्यों के आधार पर इन कठिनाइयों को दूर करने के लिए स्वेच्छा से संगठित होते है तथा अपनी आपसी जोखिम पर काम करते है और अपने एक या अधिक कार्यों को जो कि सामूहिक आवश्यकताओं के अनुसार होते हैं, इन संगठनों

में स्थानान्तरित करते है, जिसमें सामूहिक सहयोग द्वारा सामान्य नैतिक एवं भौतिक लाभ मिल सकें।" अर्थात सहकारिता समानता, स्वेच्छापूर्वक एवं जनतंत्र के आधार पर अपने समुदाय के हितों की उन्नति के लिए संगठित एक संस्था है।

सहकारी बैंकों की भूमिका

भारत में आर्थिक एवं सामाजिक जीवन की स्थिति 19वीं शताब्दी के अन्तिम वर्षों में अति गम्भीर तथा दयनीय हो चुकी है। इस अवस्था में सुधार हेतु वर्ष 1904 में मैसूर सरकार के प्रयत्नों से मैसूर में कृषि बैंक पूर्णतया सहकारिता के सिद्धान्तों पर संचालित करने के उद्देश्यों से प्रारम्भ हुआ। इसका उद्देश्य सदस्यों में लाभ बांटने के लिए अर्जन करना नहीं था, बल्कि सदस्यों से धन जमा करके उनकी वास्तविक आवश्यकता के अनुसार उसे उधार देने का उद्देश्य था।

भारत सरकार ने किसानों व दस्तकारों को महाजनों के शोषण से बचाने हेतु सर्वप्रथम सन् 1904 में "सहकारी साख अधिनियम" पारित किया। इस अधिनियम के बाद ही भारतीय सहकारी आन्दोलन का व्यवस्थित विकास प्रारम्भ हुआ। इस अधिनियम ने ग्रामीण किसानों को सस्ती दर पर ऋण सेवा उपलब्ध कराने में काफी मदद की। इसके बाद में सन् 1912 में एक सहकारी समिति अधिनियम पारित किया गया जिसमें सहकारी आन्दोलन को नई प्रेरणा मिली और सहकारिता के विकास में तीव्रता आई। भारत सरकार ने स्वतन्त्रता के बाद सन् 1951 में सहकारी आन्दोलन में तीव्रता लाने हेतु श्री ए.डी. गोखला की अध्यक्षता में "अखिल भारतीय ग्रामीण साख सर्वेक्षण समिति स्थापित की। इस समिति की रिपोर्ट के सुझावों के आधार पर पंचवर्षीय योजनाओं के माध्यम से सहकारी आन्दोलन का विकास विभिन्न क्षेत्रों में सन्तुलित रूप से आरम्भ हुआ। राजस्थान राज्य स्वतंत्रता से पूर्व ग्रामीण किसान साहुकारों के कर्ज में डूबे हुए थे। भीषण कर्जदारी के बोझ से तिल- मिला कर (भारत देश में सन् 1904 में प्रथम सहकारी कानून बनने के बाद) राजस्थान में सहकारी आन्दोलन प्रारम्भ करने के प्रयास होने लगें। फलस्वरूप अजमेर राज्य में प्रथम सहकारी कानून सन् 1906 में बन गया।

राजस्थान में सहकारी बैंकों की स्थिति:

राजस्थान सहकारी सोसाइटी अधिनियम 2001 के दिनांक 14 नवम्बर 2001 व राजस्थान सोसाइटी नियम 2003 के 30 अक्टूबर के 2004 को प्रभावी होने के पश्चात रजिस्टार, सहकारी समितियाँ द्वारा फैडरेशन के नवीन उपनियम दिनांक 5 मार्च 2007 को पंजीकृत किये गये हैं। राज्य की 40 अरबन को-ऑपरेटिव बैंक फैडरेशन की सदस्य हैं जिसमें रेल्वे श्रमिक सहकारी बैंक लिमिटेड, बीकानेर ने दिनांक 26 जुलाई 2008 को फैडरेशन की सदस्यता ग्रहण कर ली है। बीकानेर अरबन को-ऑपरेटिव बैंक की सदस्यता दिनांक 01 सितम्बर 2007 को संचालक मण्डल ने समाप्त कर दी। सदस्य बैंकों में से दो बैंक गंगानगर अरबन को-ऑपरेटिव बैंक लिमिटेड 8 सितम्बर 2004 से व लोक विकास अरबन को-ऑपरेटिव बैंक 11 अक्टूबर 2004 से अवसायन में है। बीकानेर अरबन को-ऑपरेटिव बैंक को सोसाइटी में परिवर्तित करने की प्रक्रिया में है राजस्थान अरबन को-ऑपरेटिव बैंक भारतीय रिजर्व बैंक के निर्देशान्तर्गत 30 अगस्त से है। इससे पूर्व अरबन को-ऑपरेटिव बैंक लिमिटेड, बांसवाड़ा व यूनियन को-ऑपरेटिव बैंक लिमिटेड, जयपुर 8 अक्टूबर 1976 में अवसायन में जा चुकी हैं।

सहकारी बैंकों की वर्तमान स्थिति

1. भारतीय रिजर्व बैंक की नीति के फलस्वरूप एक भी बैंक अनुसूचित बैंक नहीं है।

2. 37 बैंक Grade I और II में वर्गीकृत है।

3. एक बैंक Grade III में है ।

4. एक बैंक Grade IV में है।

5. एक ही बैंक ऐसी है जिसके पास रिजर्व बैंक का लाइसेंस नहीं है।

राजस्थान राज्य की सभी अरबन बैंक ग्राहकों के साथ एक पारिवारिक माहौल बनाकर व व्यक्तिगत सेवाएँ प्रदान करके एक विशिष्ट रूप से अपनी शैली अपनाकर कार्य कर ग्राहक का विश्वास जीतने में सफल हुई है। अरबन कॉपरेटिव बैंक उनके बीच है जो आज भी अपनत्व को प्राथमिकता देते हैं तथा परिस्थितियों में शीघ्र निर्णय लेने की क्षमता रखते हैं।

सहकारी बैंको का महत्व (Importance of Urban Co-operative Banks)

मेगलेगन समिति ने विभिन्न राज्यों में सहकारी आन्दोलन में समन्वयक स्थापित करने के लिए एक-एक शीर्ष बैंक की स्थापना की सिफारिश की। इसके लिए समिति ने निम्न लिखित आधार प्रस्तुत किये ;-

1 केन्द्रीय बैंकों के- प्रति जन विश्वास व समर्थन में कमी यह भी अनुभव किया गया कि अपने कार्य-संचालन में केन्द्रीय सहकारी बैंक जनता का विश्वास व समर्थन प्राप्त करने में असफल रहे हैं। इसी कारण वे जनता से जमायें प्राप्त नहीं कर पाये हैं। अध्ययन से पाया गया कि केन्द्रीय बैंकों के प्रति जनविश्वास जागृत करने के लिए एक शीर्ष संस्था होनी चाहिए। समिति का मानना था कि अरबन बैंक की स्थापना से केन्द्रीय बैंकों के कार्य संचालन में सुधार होगा और वे पुनः जनविश्वास प्राप्त कर सकेंगे।

2. केन्द्रीय बैंकों के पारस्परिक लेन-देन पर नियन्त्रण समिति ने यह आशंका व्यक्त की थी कि यदि केन्द्रीय सहकारी बैंकों के पारस्परिक लेन-देनों पर उचित नियन्त्रण नहीं रखा गया तो उनके पारस्परिक ऋण मिल जायेंगे जिससे इनके दायित्व निर्धारण में कठिनाई पैदा हो जायेगी। अध्ययन में पाया गया कि अरबन बैंकों की स्थापना की जाये तो विभिन्न केन्द्रीय बैंकों के मध्य ये बैंक सन्तुलन केन्द्र का काम करे तथा एक क्षेत्र की अतिरिक्त बचत को अन्य कम बचत वाले क्षेत्रों में स्थानान्तरित करने में योगदान दे सके।

3. केन्द्रीय बैंकों के कार्यों में एकरूपता प्रत्येक राज्य में बड़ी संख्या में केन्द्रीय बैंकों की स्थापना की गई थी लेकिन उनके कार्यों में एकरूपता व समन्वय का अभाव था। अतः विभिन्न केन्द्रीय सहकारी बैंकों के कार्यों में एकरूपता लाने के उद्देश्य से अरबन बैंक की स्थापना की जानी चाहिए।

4. सहकारी आन्दोलन व मुद्रा बाजार के मध्य सम्पर्क-अध्ययन के अनुसार सहकारी आन्दोलन मुद्राबाजार में सम्पर्क होना आवश्यक है। इसके लिए अरबन बैंकों की स्थापना आवश्यक समझी गई है। यह संस्था मुद्रा बाजार से सहकारी आन्दोलन के लिए आवश्यक वित्त प्राप्त करने का कार्य करेगी। जिससे व्यवसाय में वृद्धि होगी।

5. सहकारी बैंकों की धीमी गति-अध्ययन में पाया गया कि सन् 1915 में गठित समिति का सुझाव था कि भारत में को-ऑपरेटिव बैंकों की स्थापना के 3-4 वर्षों बाद भी इनकी प्रगति सन्तोषजनक नहीं रही। कुछ राज्यों में को-ऑपरेटिव बैंकों ने उल्लेखनीय प्रगति की है जबकि कुछ राज्यों में उनकी प्रगति सन्तोषजनक नहीं है तथा शेष राज्यों में तो इन्होंने

कोई कार्य ही नहीं किया है। ये बैंक न तो जमायें आकर्षित कर पाये हैं और न ही इनके अपने वित्तीय साधन पर्याप्त हैं। अतः एक ऐसी संस्था की स्थापना आवश्यक हैं जो को-ऑपरेटिव बैंकों को सन्तुलित विकास में योगदान दे सकें।

सहकारी बैंकों में प्रबन्ध का महत्व:-

किसी भी संस्था का अस्तित्व एवं उसकी सफलता उसके प्रबन्ध पर निर्भर करती है। वर्तमान समय में किसी बैंक का प्रबन्ध जितना अधिक व्यवस्थित होगा, वह बैंक उतनी ही कुशलता से कार्य कर सकेगी और बैंक विकास की ओर अग्रसर होगा। आज के समय में अरबन को-ऑपरेटिव बैंकों को अन्य व्यापारिक व निजी बैंकों से प्रतिस्पर्धा करनी पड़ती। है । अरबन को-ऑपरेटिव बैंकों को बदलती हुई आर्थिक परिस्थितियों में सामयिक निर्णय लेने होते है व तकनिकी विकास की ओर भी ध्यान देना होता है। अध्ययन में पाया गया कि आज का ग्राहक बैंकों से इतनी अधिक अपेक्षाएँ रखता है कि यदि उससे सम्बन्धित प्रकरणों में शीघ्र निर्णय न हो तो वह बैंक से सम्बन्ध विच्छेद करने में हिचकिचाता नहीं है। वह तुरन्त ही अधिक सुविधा देने वाले बैंक में चला जाता है। अतः अरबन बैंकों में आज व्यवहारिक प्रबन्ध की हर स्तर पर आवश्यकता है।

अध्ययन में पाया गया कि अरबन को-ऑपरेटिव बैंकों में भी यदि वित्तीय प्रबन्ध समुचित न हुआ तो बैंक की स्थिति कभी भी बिगड़ सकती है। पिछले वर्षों में बैंकिंग इतना बदला है कि उसके साथ-साथ चलने में भी एक अच्छे प्रबन्ध की आवश्यकता है अन्यथा कोई भी बैंक पिछड़ कर रह जायेगी और उसे दिवालिया घोषित कर दिया जायेगा। इस बदलते हुए सामाजिक व आर्थिक परिवेश में अरबन बैंकों की उत्पादकता व लाभदायकता को बनाये रखना व उसमें वृद्धि करना सबसे बड़ी चुनौती है।

सहकारी बैंकों की सफलता में निम्न तत्व होने चाहिये -

1 उच्च कोटि की ग्राहक सेवा

2 सही समय पर सही निर्णय

3 पर्याप्त पूंजी

4 ग्राहकों के स्रोत

5 प्रबन्ध की प्रभावी गुणवत्ता

सहकारी बैंकों के कार्य :

1. बैंक के सदस्यों के बीच सहकारिता व स्वयं सहायता को प्रोत्साहित करना।
2. जनता से जमाओं को स्वीकार करना तथा जिसका भुगतान वह जब भी मांगे या निश्चित अवधि के बाद देना। जिसे वह चैक, ड्राफ्ट द्वारा निकाल सके।
3. इस अमानत राशि को ऋण पर देना या विनियोजन करना।
4. बैंक द्वारा उधार लेकर धन को एकत्रित करना।
5. लोगों के जमानत के आधार पर या बिना जमानत के आधार पर ऋण देना।

6. शहरी क्षेत्र में जन साधारण से अमानतों की राशि प्राप्त कर लघु उद्यमी, छोटे व्यापारियों, दस्तकारों, कुटीर उद्योगों एवं उपभोक्ताओं को ऋण उपलब्ध कराना।
7. शहरी क्षेत्र में जनसाधारण से अमानतों की राशि स्वीकार करना, उनके द्वारा कर्ज और विनियोग के उद्देश्यों के विरुद्ध चैक्स, ड्राफ्टस, आदेश द्वारा मांग करने पर वापसी भुगतान करना आदि।

सहकारी बैंको के दोष :

1. असंतुलित विकास
2. सहकारी लाभों का असमान वितरण
3. दुर्बल संरचना
4. निहित स्वार्थी वर्गों का प्रभुत्व
5. ऋणों का अनुत्पादक उपयोग
6. निजी साधनों का आभाव
7. बकाया ऋणों में वृद्दि

सहकारी बैंको के दोषों के निवारण हेतु **सुझाव** :

1. क्षेत्रीय असंतुलन का निवारण
2. सहकारी साख को सहकारी विपणन से जोड़ना
3. अल्पकालीन साख को दीर्घकालीन साख से जोड़ना
4. एकीकरण और पुनर्गठन
5. बहुउद्देशीय समितियों कि स्थापना करना
6. कमजोर वर्ग को अधिक सहायता
7. जमा राशियाँ जुटाना
8. बकाया ऋणों कि समस्या का निवारण

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GOVT. OF INDIA- RNI NO. UPBIL/2014/56766
UGC Approved Care Listed Journal

ISSN 2348-2397

PIS

Shodh Sarita

An International Multidisciplinary Quarterly
Bilingual Peer Reviewed Refereed Research Journal

• Vol. 8 • Issue 29 • January to March 2021

Editor in Chief
Dr. Vinay Kumar Sharma
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ISSN - 2348-2397
UGC CARE LISTED JOURNAL
Shodh Sarita
January-March, 2021
Vol. 8, Issue 29
Page Nos. 201-206
AN INTERNATIONAL BILINGUAL PEER REVIEWED REFEREED RESEARCH JOURNAL

VOLATILE BEHAVIOR OF INDIAN STOCK MARKET : A STUDY OF NIFTY AND SELECTED NIFTY LISTED SCRIPT FROM DIFFERENT SECTORS

Dr. Jitendra S. Bidawat*
Dr. Chitra Rathore**

ABSTRACT

The share market has been always a curious subject area for the Investors, researchers, academicians and financial analysts. Looking at the increasing importance of share market in the society this study has been undertaken with an attempt of determining correlation between fluctuating trends and the volatility of Nifty prices and the share prices of five sample companies from different sectors like, finance, consumer products, telecommunication, IT, Software and pharmaceuticals enlisted in the Nifty Fifty companies list. The shares with less volatility resulted into comparative small gains during the research time period. F-Test and coefficient of variance were calculated to study the relation between the volatility of Indian Stock Market shares and the sample companies. It was concluded that the sample truly represented the population and the Volatility and the price fluctuations influenced the prices similarly both in population and sample share price cases.

Keywords : Fluctuation, Investors, Nifty, Stock Market, Volatility

INTRODUCTION

Capital Market is a place for buying and selling of long- term financial claims. The participants of this market includes various financial institutions, mutual funds, agents, brokers, dealers, individual investors and other borrowers and lenders of long term debt and equity capital. Capital market consists of the Primary & Secondary Market.

The Primary Market or otherwise called as new issue market is one in which long term capital is raised by corporate directly from the public. The Secondary Market or popularly called as the stock market refers to the market where those financial instruments which are already issued in the Primary Market are traded. Indian stock market is one of the oldest stock market in Asia. The stock market index is the most important indices of all as it measures overall market sentiment through a set of stocks that are representative of the market. The stock market is a barometer of market behavior.

It reflects market direction and indicates day to day fluctuations in stock prices.

The function of stock index is to provide investors with information regarding the average share price in the market.

Stock index is a barometer of nation's economic health as market prices reflect expectation about the economy's performance. In order to structure the security market, a regulatory authority named SEBI (Securities and Exchange Board of India) was established and first electronic exchange National Stock Exchange was also set up.

EFFECTIVENESS OF SHARE MARKET

It is general notion in the market that stock markets are efficient and prices reflect all available information. There is extensive research literature available to see whether stock markets are efficient or not. Some academicians believe that stock market is weak efficient (Cootner, 1962; While some others have belief that stock

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markets are not weak efficient (Chaudhary, 19915; The present study is an attempt to see the efficient form of Indian stock market. Efficiency of stock market has its implications for the whole economy and economic development of any country.

As, if stock market is efficient enough then there is no need of government interference in the market movements.

A stock market can be said efficient if all past information, new information and even hidden information reflect in the security prices. It is general notion in the market that stock markets are efficient and prices reflect all available information. There is extensive research literature available to see whether stock markets are efficient or not.

Some academicians believe that stock market is weak efficient (Cootner, 196293; While some others have belief that stock markets are not weak efficient (Chaudhary, 199197).

Volatility is basically the variation from the average value over a measurement period. Over the years it has been observed that the correlation between Indian Stock Market and other world markets are on an increasing trend.

Investing money in stock market is assumed to be risky because stock markets are volatile. There is volatility in stock market because macro economic variables influence it and affect stock prices. For example, when stock market crashed in September 2008, the price of almost all listed companies came down.

Volatility is the variation in asset prices change over a particular time period. Volatility makes a stock market risky but it provides the opportunity to make money by those who can understand it.

IMPORTANCE OF THE STUDY

Stock Market volatility is unavoidable. It is the nature of the stock markets to fluctuate and turn red and green within short span of time. Volatility is an essential part of the stock market because it checks the nerve of the market.

As a coin has two sides, the same way market has two aspects the positive and the negative. It can be seen that volatility has its long term impact in the market so an investor is required to take all possible measures to design his portfolio. Stock returns bear a good relationship with volatility as with increase in financial volatility stock prices fluctuates. An average investor gets very less returns as compared to the average market returns.

OBJECTIVES OF THE STUDY

- To study the volatility of share market and its impact on share prices.
- To study that whether the sample picked from Nifty listed stock's price trends are truly representing to the Price trends of Nifty or not.
- To analyse that there is any correlation or not between the Volatility trends of Nifty and sample stocks picked from Nifty listed companies.
- This study is an attempt to identify the degree of interdependency between the Volatility trends of Nifty and sample stocks picked from Nifty listed companies so that investors can reduce their risk of investment.

RESEARCH METHODOLOGY

The statistical information for the study has been collected from the website of National Stock Exchange (nseindia.com) and website of Money control, for this price of Nifty and sample shares at the end of financial year for last 10 years from 31st March 2010 to 31st March 2019 are considered.

The whole research is an effort of tracking the trends of variation in Nifty Prices and Average Prices of Sample shares picked from Nifty listed companies.

To observe the results, Coefficient of Correlation, Coefficient of Variation and F test were carried out to find that, whether the sample is truly representing the Nifty or there is any difference in the nature of sample and the Nifty.

SAMPLE SIZE

Out of 50 shares of Nifty, 5 shares being selected as sample from five different sectors, like HDFC ltd from finance, Hindustan Unilever Ltd, from consumer products, Bharti Airtel Ltd. form telecommunication, Infosys Ltd. from Software and Sun Pharmaceuticals Industries Ltd. from Pharmaceuticals. The sample size is 10% but the Weightage of Capital Value is 22.37% of Total Capital Value of Nifty.

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Table-1: Selected Companies, Sector and their Weightage

Sr. No.	Company Name	Sector	Weightage
1	Infosys Limited	Software	7.54%
2	HDFC Ltd.	Finance	6.57%
3	Hindustan Unilever Ltd.	Consumer Non Durables	4.20%
4	Bharti Airtel Ltd.	Telecom - Services	2.84%
5	Sun Pharmaceutical Industries Ltd.	Pharmaceuticals	1.22%
		Total	22.37%

ANALYSIS AND FINDINGS :

Table-2: Prices and Statistics of Nifty and Selected Shares

(Price in Rs.)

Years	Nifty	Infosys	Sun Pharma	HUL	HDFC	Bharti Airtel	Average Prices of Selected Shares
2010	5249	339	180	239	532	284	314.8
2011	5826	392	206	276	701	311	377.2
2012	5194	356	255	412	651	304	395.6
2013	5672	356	390	472	806	264	457.6
2014	6721	414	572	600	875	291	550.4
2015	8586	557	1079	883	1305	357	836.2
2016	7615	609	840	861	1125	324	751.8
2017	9143	512	688	898	1502	313	782.6
2018	10211	565	546	1333	1825	353	924.4
2019	11669	728	440	1687	1946	327	1025.6
SD	2252.87	131.22	289.48	467.50	500.99	29.18	253.14
Mean	7588.6	482.8	519.6	766.1	1126.8	312.8	641.62
Co. of Var.	29.68%	27.18%	55.71%	61.02%	44.46%	9.33%	39.45%

Source: nseindia.com

INTERPRETATION :

The above table 2 reveals that the coefficient of variation of Sun Pharma, HUL and HDFC are 55.71%, 61.02% and 44.46% respectively are highly volatile. The high volatility is associated with high risk and high which is reflected in the trends of these shares. The trends and the coefficient of variation of Infosys are more over nearby the trends and coefficient of variation of Nifty. Airtel performing with least volatility as its coefficient of variation is 9.33% but the returns were poor during the study period. The difference between the coefficient of variation of Nifty and Average prices of share group is less than 10% which shows that the collective performance of selected shares is representing the volatility and returns of investment in Nifty.

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Table-3: Coefficient of Correlation between Prices of Nifty and Average Closing Prices of selected Shares.

Result Details & Calculation

X Values (Nifty Prices)
$\sum = 75886$
Mean = 7588.6
$\sum(X - Mx)2 = SSx = 45678990.4$

Y Values(Average Prices of Selected Shares)
$\sum = 6416.2$
Mean = 641.62
$\sum(Y - My)2 = SSy = 576721.076$

X and Y Combined
N = 10
$\sum(X - Mx)(Y - My) = 4976125.88$

R Calculation
$r = \sum((X - My)(Y - Mx)) / \sqrt{((SSx)(SSy))}$

$r = 4976125.88 / \sqrt{((45678990.4)(576721.076))} = 0.9695$

Meta Numerics (cross-check)
r = 0.9695

INTERPRETATION :

This is a strong positive correlation, which means that high Nifty Price goes with high Average Price of Selected Shares (and vice versa)

Hypothesis Testing :

Ho : There is no difference between the Variance of Nifty and the Variance of Average prices of share group and Sample is representing Nifty.

H_1 : There is a difference between the Variance of Nifty and the Variance of Average prices of share group and Sample is not representing Nifty.

Result Details of Computation

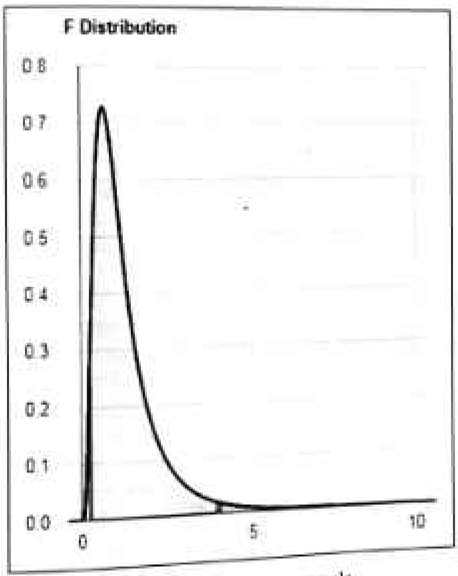
F test for variances, using F distribution (DF=9) (two-tailed) (validation)

1.Degree of Freedom
F test for variances, using F distribution (DF=9) (two-tailed) (validation)

2. P-value
p-value equals 0.0524501, ($p(x \le F) = 0.973775$). This means that if we would reject H_0, the chance of type I error (rejecting a correct H_0) would be too high: 0.05245 (5.25%).
The larger the p-value the more it supports H_0.

3. The statistics
The test statistic F equals 3.963582, is in the 95% critical value accepted range: [0.2484 : 0260].
S1 S2=1.99, is in the 95% accepted range: [0.4980: 0.3362].

Note: Standard Deviation of Nifty is adjusted according to the weight of sample to make them comparable.



NTERPRETATION :

ince p-value > α, H_0 is accepted.

The standard deviation (S) of **Nifty prices'** opulation is considered to be **equal to** the sample tandard deviation (S) of the **Average prices of shares group** sample.

In other words, the difference between the standard deviation (S) of the **Nifty prices** and **Average prices of shares group** sample is not big enough to be statistically significant.

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CONCLUSION :

Share market is the market where transactions are made in securities such as stocks and bonds. The participants of this market includes various financial institutions, mutual funds, agents, brokers, dealers, individual investors and other borrowers and lenders of long term debt and equity capital. The high volatility is associated with high risk and high gain. The results Coefficient of Variation, coefficient of Correlation and F test it is revealed that the sample is the completely representing the population or there is no difference in the nature of sample and the population. The Test results displayed that the collective performance of selected shares was representing the volatility and return of investment of Nifty. So it is concluded that there was no difference between the volatility behavior of the sample of Nifty listed shares and its sample shares and investors can reliance on the degree of interdependency between the Volatility trends of Nifty and stocks picked from Nifty listed companies to reduce their investment risk.

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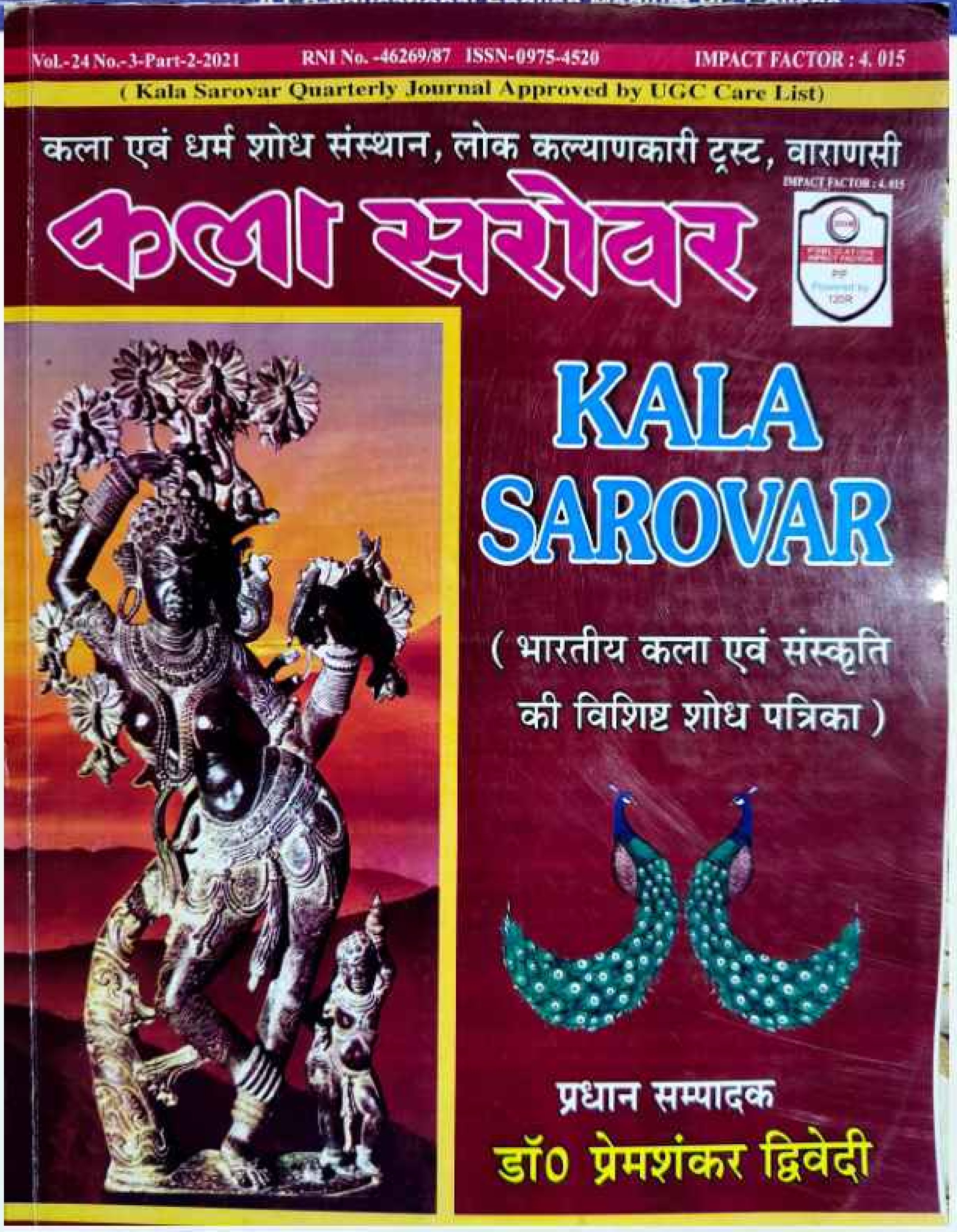

Vol.-24 No.-3-Part-2-2021 RNI No. -46269/87 ISSN-0975-4520 IMPACT FACTOR : 4. 015

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कला एवं धर्म शोध संस्थान, लोक कल्याणकारी ट्रस्ट, वाराणसी

IMPACT FACTOR : 4. 015

कला सरोवर

KALA SAROVAR

(भारतीय कला एवं संस्कृति की विशिष्ट शोध पत्रिका)

प्रधान सम्पादक

डॉ० प्रेमशंकर द्विवेदी

Neelima

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(Vol. 24-No.-3-Part-2-2021) RNI No- 46269/87 ISSN-0975-4520 IMPACT FACTOR : 4.015

विषयानुक्रमणिका

The Changing Role of An Accountant Via Adoption of Artificial Intelligence

★ Dr. Jitendra Singh Bidawat

Abstract

Artificial intelligence has recently undergone major improvements, especially in accounting. The biggest danger to artificial intelligence is that people reach conclusions they know prematurely, but the results produced by artificial intelligence systems depend entirely on the input provided. The purpose of this research is to observe the impact of artificial intelligence on the accounting transaction efficiency of accounting firms. Used for artificial intelligence/machine learning, depending on how artificial intelligence works in accounting. The conclusion reached is that the use of artificial intelligence has a positive impact on the performance of the accounting function. An accountants and accounting firms need to continuously improve their understanding of artificial intelligence because they can improve the performance of the accounting function, thereby eliminating certain accounting costs.

Key Words: Artificial Intelligence, Accounting, Operations, Accounting Firms.

Background

Computer scientists have been aspired from 1950 to include Artificial intelligence (AI) with human lives and they have very much succeeded. We have to identify the qualities and limits of this diverse intelligence and make understanding of the most ideal ways for people and computers to work together.

Despite this, AI techniques such as machine learning are not new and the movement of progress is fast, far-reaching adoption in business and accounting is still in the beginning phases in our country. To construct a positive vision of things to come, we have to build up a bottomless understanding of how AI can take care of accounting and business issues, the functional difficulties, and the abilities, accountants need to work alongside intelligent systems. Leadership, affinity, and imagination are three main characteristics of humans that can't be replaced by machines and nobody can underestimate humans' simplicity and creativity. The two ways in which we humans take our decisions are:

- Intuition – Our thought process is taking by our unconscious mind instinctively and very quickly without making any effort by only recognized a pattern which had earlier happened with us.
- Reasoning – When decisions have been taken with conscious mind by implementing some logics and our prior knowledge about that topic. This is a little time consuming process.
- As per a famous psychologist Daniel Kahneman, there are many biases and inconsistencies were presented in our decisions that may occur due to:
- Availability bias – more recent or common examples tend to come to mind, which can skew our decision-making processes.
- Confirmation bias – we tend to see only things that are consistent with our existing views.
- Anchoring – we are strongly influenced by prior suggestions.

Objective

The widespread objective is to determine the effect of AI on the performance of accounting functions amongst accounting firms:

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- To understand the state of AI adoption in Accounting.
- To determine the opportunities and challenges that artificial intelligence poses for industry and society.
- To make an understanding, how it works in Accounting Profession.

Literature Review

A concise evaluation of the different researches in the field is undertaken as following:

1. Daniel E.O leavy, Henry Martyn Robert M O keefe, "Impact of AI in Accounting work: knowledgeable system use in Auditing and Tax", This paper studied the link between AI in accounting work and analysis of the impact of the expert system on organization issues.
2. William E. Spangler, "The Role of AI in understanding the Strategic deciding Process". This paper evaluated that AI plays an important role within the decision-making.
3. Cindy Greenman, "Exploring the impact of computing on the Accounting Profession". This analysis paper finished that the importance of AI in accounting work ie. in the various task of book-keeping or method driven assignment.
4. Cara jaslove, "The rise of computing: associate Analysis on the long run of Accountancy." This paper analyzed that accounting work becomes straightforward when the uses of computing in information analysis work, bookkeeping, tax controller work, and so forth
5. Odoh, Longinus Chukwudi "impact of Artificial Intelligence on the performance of Accounting Operation among house in southeast Nigeria, 29 Gregorian calendar month 2018" This paper analyzed the performance of accounting work with the assistance of artificial intelligence is speedily ever-changing however the institution is operated.

Research Gap

Above researches are focused on studying the Importance of AI in different areas of the Accounting Profession, but it is missing that what would be the role of an accountant after adopting AI and what type of knowledge and skills an accountant has supposed to learn to work with such technology. In this paper, I tried to make an understanding of how AI works and which type of knowledge and skills are required to convert the challenges into opportunities.

Methodology

This study makes use of descriptive research; the source of data comprises secondary data and the use of examples to create understanding for successful use of AI in the field of the Accounting Profession. The whole research divided into the following sections mention below:

- AI Adoption and Potential in AP – an Overview
- Strengths and Opportunities by adopting an Artificial Intelligence for Accounting Profession.
- Weaknesses and Risks associated with adopting Artificial Intelligence, trying to create understanding through some examples.
- Strategic Recommendations for the success of the Indian Artificial Intelligence Ecosystem.

How AI works in Accounting System?

Accounting Information Systems (AIS) or more general ERP (Enterprise Resource Planning) systems have led to the digitization of the accounting field and the identification of inconsistencies and fraud in accounting. This is called learning, and then the neural network comes into play: it receives input data, which creates an output signal based on accumulated knowledge. Cognitive neuroscience helps neural networks learn how the accounting system itself works, org. We can use a deep auto encoder network model (one of many neural network models). When we train the model for all daily transactions and their feed schemes in a highly compressed form, we make the model somewhat 'lossy'.

Therefore, you do not limit the possibility of remembering the network. Neural networks can only use digital data by default, so we need to convert categorical data into digital data. For example, the following classification attribute "Customer" contains the names "Ram", "Shyam" and "Mohan". This encoding creates a separate binary column for each possible observable name value in the "Customer" column. Now, for each transaction that contains a "Ram" value in the "Customer" column, we will use 1.0 in the newly created "Ram" column and 0.0 in all other created name columns for observation.

Table 1.1

Showing encoding creates a new binary column

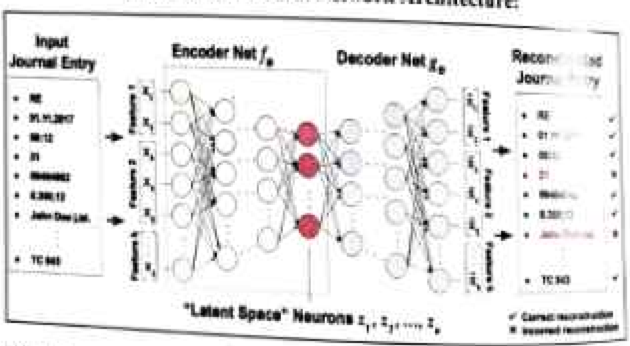
Original	
ID	Customers
1	Ram
2	Shyam
3	Mohan

Encoded			
ID	Ram	Shyam	Mohan
1	1.0	0.0	0.0
2	0.0	1.0	0.0
3	0.0	0.0	1.0

Source: Author

Figure 1.1

Auto encoder Neural Network Architecture:



Source: Author

Impact of AI in Accounting Sector

New technologies are changing the way people work in all industries, as well as changing customer expectations when working with companies. The impact of artificial intelligence on the accounting industry is as follows:

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Table 1.2

The impact of artificial intelligence on the accounting industry

Accounting • [illegible] • [illegible] • [illegible] • [illegible]	*Auditing* • Reduced audit staff • Machine learning expertise • Internal control emphasis • Improved fraud detection
Tax Compliance • Reduced time reviewing material • Machine learning expertise • New tax planning opportunities • Improved value added services	*Advisory Services* • Reduced time gathering information • Machine learning expertise • Improved accuracy and reduced costs • Emphasis on value added services

Source: Author

How are accountants using AI capabilities?

For years, accountants have been using technology to help them make better recommendations and make more informed decisions. Technology can help them by solving three common challenges:

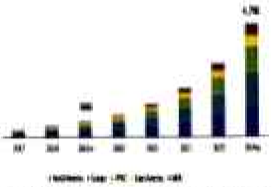
a) Provide better and cheaper data to support decision-making;
b) Generate new knowledge based on data analysis;
c) Have free time to focus on more important tasks, such as decision-making, problem-solving, Consulting, strategy formulation, relationship building and leadership. So far, its use in actual accounting has been limited, but early research and implementation projects include:
   - Use machine learning to encode accounts and improve the accuracy of rule-based methods to achieve higher automation of the process; More complex "common" behavior machine learning models and more accurate fraud predictions to improve fraud detection;
   - Use machine learning-based predictive models to predict revenue;
   - Use deep learning models to improve unstructured data (such as contracts and electronic Email) access and analysis

Global Scenario of AI in Accounting & finance Industry

Millions of small businesses around the world operate in various legal and regulatory environments; The idea of a world where all accounting systems across all departments and geographic regions interact with each other is still a dream. Billions of dollars are used to develop ERP systems, and I suspect that even billion-dollar companies in the world today can print their financial statements directly from their ERP without manual intervention. The current global scenario about adoption of AI in Accounting Industry is explained in figure 1.2 and figure 1.3.

Figure 1.2

AI in Accounting Market, by Region (USD million)



Source: NEW YORK, Nov. 11, 2019 /PR News wire

Figure 13
AI in Accounting Market – Growth Rate by Region (2020-25)

Source: NEW YORK, Nov. 11, 2019 /PR News wire

According to figure 1.3, it is clear that the Asia Pacific (APAC) region is expected to experience the fastest growth during the forecast period due to increased investment and funding, more start-ups, and increased government attention to compliance and data. . Japan, Australia and India integrated artificial intelligence solutions into the accounting process, freeing employees from daily work and ensuring data consistency. At the same time, North America may have the largest market size during the forecast period.

The global accounting artificial intelligence market the region is experiencing the greatest development in accounting artificial intelligence. Artificial intelligence solution providers in the region are continuously involved in the development of innovative products and the implementation of these artificial intelligence accounting solutions and services. Artificial intelligence (AI) in the accounting market is expected to grow from US$666 million in 2019 to US$4.791 million in 2024, with a compound annual growth rate of 48.4%.

Artificial Intelligence Adoption in India

The large audit companies were the use of technology to enhance a[illegible] approaches for numerous decades. Most in their paintings now days is primarily based to[illegible] on analytical approaches and computer aided audit applications. Audit career will mov[illegible] [illegible]milarly on this direction. Audit companies will appoint more professionals in statistics, [illegible] management, technology, data interpretation, etc.

- KPMG, Deloitte, Ernst & Young (EY) and PricewaterhouseCoopers ([illegible]), collectively referred to as the Big Four, are the largest AI service providers in the accounting industry. Many of the financial and consulting services provided by these companies, such as providing advice on investment decisions, involve finding patterns in very large data sets.

Figure 1.4
The Big 4 Accounting Firms dominate the Audit Business for the Nifty 500 firms

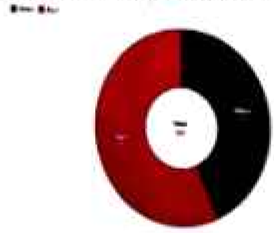
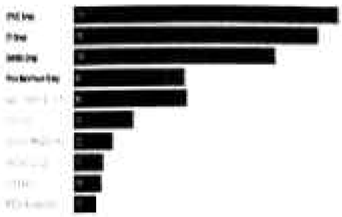


Figure 1.5



Source NSE, Prime Database

A screen shot of a part of the report on PwC's "AI: filler the prize" report we are able to clearly see the advantages of exploitation these AI-based accounting tools that these massive four accounting corporations have a 60% share from the highest five hundred listed firms in India. As per the joint report by NSE and Prime information Group, massive 4's have handled 283 companies' audits within the good 500 index for 2019-20. Even in the broader universe of all listed firms on the NSE, the large 4 are auditors for 26% of the 1,813 companies.

Impact on Indian Industry of AI

The preparation of annual financial statements includes various estimates, provisions, and multiple aspects of review and evaluation. ...It's fast, and it will accelerate even more; However, you need to master the technology and reinvent yourself to stay relevant. Following are the key points regarding opportunities, challenges and risk associated while adopting AI.

Opportunities' for Accounting Professions while adopting AI

- Automation of Workflows
- AI Cart-bots are always delivering smart and flexible analysis through using standard messaging tools and voice activated interfaces.
- Reporting of accounting information and advisory services become efficient.
- Automated management of accounts payable/ receivable.
- Enhancing real time market analysis.
- AI gives more permutations for batter allocation of limited resources for optimum usage.
- Real time stock management is easy for penicible goods

Challenges for Accounting Profession while adopting AI

- Artificial intelligence tools and techniques require a lot of computing power so that it needs advanced computing systems.
- AI is still a black box for the people and they don't trust something until they know how the decision was made. Algorithms are complex to make people understand.
- AI's need to be designed just to make sure that their solutions do not affect other areas of operations.
- Accountants are not technicians, they have limited knowledge to operate IT gazettes.
- AI, totally dependents upon the inputs fed by the users.
- There is an issue with data security.

Risk associated in adopting an Artificial Intelligence

- Ill-defined downside statement.
- Lack of expertise.
- Model-system-data disconnection.
- Algorithmic bias caused by dangerous data.

- 'Deep-fakes'
- Impossible expectations.
- Knowledge challenges.
- Lack of verifiability.

Discussion

Companies are going to want accountants with greater various talents. Those who're acquainted with technology aren't fearful of it'll be greater valuable than those who turn away from it. Having a sturdy historical past in data management can be extraordinarily helpful. Learning accounting software program such as Intuit, OneUp, Sage or Xero will positioned them at an advantage. Other in-call for accounting generation talents includes:

- Accountants need to learn to integrate artificial intelligence technology into their daily work.
- Combining technology with human skills Machines cannot be automated, such as communication and relationship building, and unique human skills such as creativity, empathy, and enthusiasm.
- Gain a competitive advantage through innovation and technology, accounting firms can use artificial intelligence to lead smaller accounting firms in terms of greater efficiency and better services.

Conclusion

AI can offer high-quality effects along with accelerated productivity, stepped forward accuracy, and decreased cost. Combining AI with different technologies, along with robotic method automation can permit accountants to redirect the time that they used to spend on recurring duties towards acting high-value, high-effect duties. AI and automation will now no longer be changing finance and accounting experts within side the foreseeable future. On the contrary, as AI automates many elements of business, there's a large possibility for accounting and finance experts to up-talent themselves to satisfy the necessities of the twenty first century.

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International Journal of Education, Modern Management, Applied Science & Social Science (IJEMMASSS)
ISSN : 2581-9925, Impact Factor: 6.340, Volume 03, No. 04(II), October - December, 2021, pp.171-178

VOLATILITY: AN ANALYSIS OF INDIAN STOCK MARKET

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ABSTRACT

This article examined the relationship between stock price volatility, trading volume, and the serial correlation of daily stock returns from January 1, 2015 to December 31, 2020. The results show that the effect of trading volume on stock market volatility has a significant impact on the volatility of stock market performance. Trading derivatives has improved the efficiency of the stock market by reducing the volatility of the spot market. Indicate that stock returns have caused an excessive change in fundamentals, expected total returns, and changes in the effective risk aversion of market participants. The relationship between yield, volatility and trading volume of 10 Indian stocks ... The contemporary correlation between yield and trading volume and the asymmetrical relationship between trading volume and yield is examined.

Keywords: *Volatility, Volume, Stock Price, Returns, Risk, Index, Trading.*

Introduction

Stock exchanges somehow assume significant work as indicators that reflect the performance of the country's monetary welfare. Hedges are bought and sold on the stock exchange. It occurs in high volatility. Prices very in a short period of time and are dictated by the demand and supply of stocks at any given time. Stockbrokers are those who buy and sell securities for the benefit of individuals and institutions for a certain commission. Securities and Exchange Board of India (SEBI) is the authorized body that oversees the operations of stock exchanges, banks and other financial institutions. The past exhibitions in the capital markets particularly the protections trick by Harshad Mehta has prompted fixing of the activities by SEBI.

With the view to improve, train and get more noteworthy straightforwardness this segment, steady endeavors are being made and somewhat enhancements have been made.

Indian Capital Market Overview

Evolution

Indian Stock Markets are one of the most established in Asia. Its history goes back to about 200 years prior. The most punctual records of security dealings in India are pitiful and darken. The East India Company was the predominant organization back then and business in its credit protections used to be executed towards the end of the eighteenth century.

In this manner, at present, there are absolutely twenty-one perceived stock trades in India barring the Over the Counter Exchange of India Limited (OTCEI) and the National Stock Exchange of India Limited (NSEIL).

Literature Review

There have been number of experimental investigations in developed markets that give proof on the connection between trading volume and stock returns. Expiration impacts of stock future on the price and volume of underlying stock proof from India.

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- **Anver Sodath and B Kamalash** examined the relation between daily trading volume and daily absolute changes of market Index and individual stocks and discovered positive relationship between's them.
- Exchanging volume and serial correlation in stock return Pakistan **Kahilid Mustafa** colleague educator utilized daily stock information and Epps December 1991 to December 2001 utilized exchanges information and found a positive contemporary relationship between's exchanging volume and outright returns.
- **Malabika dea, Professor of commerce(SQM) Pondicherry university & K shivsam, (2008)** dissected the dynamic relation between exchanging volume and returns utilizing singular stock exchanges information and found a positive slacked connection among volume and outright value changes.

Most studies show that after the introduction of index futures trading, the volatility of the spot market has decreased.

Objectives of the Study

The objective of this study is to;

- Study the behavior of volatility in stock markets after the changes in trading volume.
- Examine with help of econometric model whether the trading volume has reduced the risk and inefficiency in the Indian stock market or not.

Research Plan

In this study, our data set consists of all stocks in the S&P CNX Nifty Index. S&P CNX Nifty is a well diversified 10-stock index that represents different sectors of the Indian economy. The data were collected for the period from January 1, 2015 to December 31, 2020.The dataset consists of 12,580 daily adjusted closing price data points and three different measures of daily volume (number of transactions, number of shares traded and total value of the shares). The daily adjusted closing prices were used to estimate the daily returns. List of companies is as below:

Table 1.1: List of selected Companies and their Sectors

Company name	Sector	Symbol
Bharat Heavy Electricals Ltd.	Electrical Equipment	BHEL
HDFC	Finance	HDFC
I T C Ltd.	Cigarettes	ITC
Infosys Technologies Ltd.	Computers - software	INFOSYSTCH
Mahindra & Mahindra Ltd.	Automobiles - 4 wheelers	M&M
Oil & Natural Gas Corporation Ltd.	Oil exploration/production	ONGC
Reliance Industries Ltd.	Refineries	RELIANCE
State Bank of India	Banks	SBIN
Sun Pharmaceutical Industries Ltd.	Pharmaceuticals	SUNPHARMA
Tata Power Co. Ltd.	Power	TATAPOWER

Limitation

- Small size sample of 10 companies
- Time period can be lengthened for studying the volatility
- Macro-economic factors like FIC ,FII, oil prices, Global factors have ignored they have impact on volatility on the stock markets
- F&O segments volatility
- Corporate House's Announcements

Methodology Followed for Stock Market Analysis

For the stock market analysis, secondary data available from NSE and BSE is considered and Regression analysis, Beta as standerdized coefficient, Standard Error,' t' value is used as a tool of analysis. Following are the equations and terminologies which is used for this research.

- The actual return on each sample stock during both event window and estimation window is found as follows:

{ ri,t=(Pi,t-Pi,t-1)/Pi,t-1}

Where

ri,t = Return on stock i in the period t

Pi,t = Price of security i in the period

Pi,t-1= Price of security i in the period t-1

- The actual market return on CNX-Nifty is found in the similar manner as follows:

(rm,t =(It-It-1)/It-1)

Where

rm,t = Market return in the period

It = Index value in the period

It-1 = Index value in the period

- The following linear market model for stock i is estimated from the estimation window:

{ri,t = αi+βirm,t+uit}

Where

ri,t =Return on stock i on day t

α = Intercept

βi = Beta of the stock i

rm,t = Market return of CNX-Nifty on day t

uit = Residual error term which is assumed to satisfy the usual assumptions of linear regression model

- The regression specification takes the followings general from:

{ Y = a + bx +e}

Where, y and x are dependent and independent variable respectively and e is the error terms

Accordingly, β is estimated from the following regression specification

.ri = α + βrm+e

Results
ITC

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.001	.002		-.408	.685
	Volume daily index return	-.014	.004	-.103	-3.736	.000

a. Dependent Variable: ITC daily stock price return

ITC stock Price Return = a+bx

= -.001 + -.014 x

B is the slope of regression line and it tells % change in return caused by % change in volume. So it is -.014 which is significant at p value of .000

BHEL

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.002	.001		2.462	.014
	Daily return on index return	.004	.001	.073	2.587	.010

a. Dependent Variable: Daily return on stock prices BHEL

BHEL stock Price Return = a+bx

= .002 + .004 x

B is the slope of regression line and it tells % change in return caused by % change in volume. So it is .004 which is significant at p value of.010

M&M

Coefficients a

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.002	.001		1.902	.057
	daily return on m&m trading volume	.003	.001	.052	1.831	.067

a. Dependent Variable: daily return on m&m stock prices

M&M stock Price Return = a+bx

= .002 + .003 x

B is the slope of regression line and it tells % change in return caused by % change in volume. So it is .003 which is significant at p value of .067

Tata Power

Coefficients a

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.002	.001		2.810	.005
	daily return on tata power trading volume	.006	.001	.140	5.008	.000

a. Dependent Variable: daily return on tatapower stock prices

Tata Power stock Price Return = a+bx

= .002 + .006 x

B is the slope of regression line and it tells % change in return caused by % change in volume. So it is .006 which is significant at p value of .000.

HDFC

Coefficients a

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.002	.001		2.603	.009
	daily return on hdfc trading volume	.004	.001	.129	4.599	.000

a. Dependent Variable: daily return on hdfc stock prices

HDFC stock Price Return = a+bx

= .002 + .004 x

B is the slope of regression line and it tells % change in return caused by % change in volume. So it is .004 which is significant at p value of .000

Infosytch

Coefficients a

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.001	.001		-.578	.563
	daily return on infosytch trading volume	-.003	.003	-.027	-.948	.343

a. Dependent Variable: daily return on stock infosytch prices

Infosytch stock Price Return = a+bx

= -.001 + -.003 x

B is the slope of regression line and it tells % change in return caused by % change in volume. So it is -.003 which is significant at p value of .343

ONGC

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.001	.001		1.428	.154
	daily return on ONGC trading volume	.003	.001	.077	2.730	.006

a. Dependent Variable: daily return on ONGC stock prices

ONGC stock Price Return = a+bx

= .001 + .003 x

B is the slope of regression line and it tells % change in return caused by % change in volume. So it is .003 which is significant at p value of .006

Reliance

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.002	.001		3.010	.003
	daily return on relience trading volume	.001	.001	.021	.726	.468

a. Dependent Variable: daily return on stock relience prices

Reliance stock Price Return = a+bx

= .002 + .001 x

B is the slope of regression line and it tells % change in return caused by % change in volume. So it is .001 which is significant at p value of .468

Sunpharma

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.001	.001		.569	.569
	daily return on sum phama trading volume	.004	.001	.094	3.336	.001

a. Dependent Variable: daily return stock sun phama prices

Sunpharma stock Price Return = a+bx

= .001 + .004 x

B is the slope of regression line and it tells % change in return caused by % change in volume. So it is .004 which is significant at p value of .001

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SBIN

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.002	.001		2.702	.007
	daily return on SBIN trading volume	.005	.001	.102	3.618	.000

a. Dependent Variable: daily return on SBIN stock prices

SBIN stock Price Return = a+bx

= .002 + .005 x

B is the slope of regression line and it tells % change in return caused by % change in volume. So it is .005 which is significant at p value of .000

Analysis of Results

Table 1.2: Summary of Results

Column1	Column2	Column3	Column4	Column5	Column6	Column7
S.NO	Company name		α	B	More than .05	less than .05
1	ITC		-0.001	-0.014		
		Seg	0.685	0		1
2	BHEL		0.002	0.004		
		Seg	0.014	0.01		2
3	M&M		0.002	0.003		
		Seg	0.057	0.067	1	
4	TATA POWER		0.002	0.006		
		Seg	0.005	0		3
5	HDFC		0.002	0.004		
		Seg	0.008	0		4
6	INFOSYTECH		-0.001	0.003		
		Seg	0.565	0.343	2	
7	0NGC		0.001	0.003		
		Seg	0.154	0.006		5
8	RELIENCE		0.002	0.001		
		Seg	0.003	0.468	3	
9	SUN PHARMA		0.001	0.004		
		Seg	0.569	0.001		6
10	SBIN		0.002	0.005		
		Seg	0.007	11		7

As per Table (1.2) the Beta of 7 companies are Significant because level of Significance is less than 0.05(sin<0.05) on the other hand the Beta of 3 companies are not Significant because for every company Significance level is more then 0.05(sin>0.05).

Findings

This study has observed the informational impact of the cash markets trading on the volatility of stock market with the help of a well known test for the volatility of the financial markets and using the SPSS software calculated regression model. NSE Nifty listed 10 stocks are used understudy for stock market return. The general finding is that impact of trading volume on the stock market's volatility and it has significant impact on the volatility of the stock market return.

To control the effects of trading volume, we used other performance series and determined that derivatives are not a single factor affecting equity risk (volatility). There are a few other market factors. Great efforts have been made to control the volatility of the NSE market. A high volatility is considered a high risk on the stock trading in Stock Market. In order to reduce this risk factor in the Indian stock market, the market regulators are taking a number of measures; the introduction of derivatives trading is one of them.

Conclusion

The analysis concluded that derivatives trading had done its job. It has improved the efficency of the stock market by reducing the volatility of the spot market. The result is different for the different time periods, as the analysis for the period January 2015 to December 2020 concludes that the volatility increases due to the trading volume.

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International Journal of Advanced Research in Commerce, Management & Social Science (IJARCMSS)
ISSN : 2581-7930, Impact Factor : 5.880, Volume 04, No. 04(II), October -December, 2021, pp 122-129

STUDY OF IMPACT OF ORGANIZATIONAL WORK CULTURE ON PROFITABILITY: PUBLIC VS PRIVATE SECTOR BANKS

Dr. Jitendra Singh Bidawat*

ABSTRACT

Banking sector had contended a revolutionary modification towards the expansion of our economy and henceforward it's the key indicator to analyze the extent of development of any country. If the banking sector doesn't perform well, agriculture, industry, trade activities all are affected badly. Profit analysis of banks is crucial for evaluating banks business life. Banks earn profit mainly from the interest charged on loans and therefore the fees charged for the services it renders. Likewise the most item of expense for banks is that the interest they need to pay on liabilities.

Keywords: *Revolutionary Modification, Banking Sector, Trade Activities, Profit Analysis.*

Introduction

"Profit is a condition of survival. It is the cost of the future, the cost of staying in business".

Peter F. Drucker

The Performance of the business is judged by the amount of a profit earned and that is why management's main task is to maximize the profit earned by the business. Profitability signifies the ability of a business to earn profit on its investments. In other words, we can define profit as amount remaining from revenue after deducting the related costs. Additional profit will absorb the shocks and avert risks that banks will face. Profit may be a necessity for innovation, diversification and potency of economic banks (Hempell, 2002). The steadiness of economic banks to a good extent depends on profit.

Public and Private Sector Banks

Public sector banks are those banks where the majority of the stake is held by the government. Share holders of private sector banks hold a majority. As per the banking companies act, 14 banks were nationalized in July 1969 and 6 banks were nationalized in 1980. These are called public sector banks. Public sector banks are divided into two categories. Nationalized banks provide public control and control of their functioning to public sector banks. Private Sector Banks are those banks where the majority of the equity is held by private share holder, the government does not have it. Since the liberalization of 1990, old and new private sector banks have evolved in government banking policy. Then the private sector banks are completely free to open a satisfactory branch without the prior permission of RBI. These are called private sector banks.

Review of Literature

Some researches relevant to the topic are studied with the objective to find out the research gap.

- **Arora and Kaur (2006),** analyzed financial performance of banks on the basis of Return on assets, Capital assets risk weighted, Non- performing assets to Net advances, Business per employee, Net profitability ratio, Non performing assets level and off balance sheet operation.

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- **Gopal and Dev (2006)**, empirically analyzed the productivity and profitability of selected public and private sector banks in India. A high degree of positive association between productivity and profitability during the study period was witnessed which shows efficiency of the banks in utilizing their resources.
- **Jha and Sarangi (2011)**, evaluated seven public sector and private banks for the year 2009-10 and their performance. The study found that Axis Bank is the best performer followed by HDFC Bank, PNB, IDBI, BOI, SBI and ICICI bank.
- **Kheechee (2011)** tried to find out the causes for differences in profitability of different sectors of commercial banks. He discovered that the return on fund is very less for the private sector banks as compared to public and foreign sector banks due to inefficient management of portfolio of securities. Overall in managing banking business, foreign banks and private banks are more superior to the public sector banks.
- **Prasad and Ravinder (2011)**, analyzed the profitability of four major banks in India i.e. SBI, PNB, ICICI bank and HDFC bank for the period 2005-06 to 2009-2010 using statistical tools like arithmetic mean, one way ANOVA , Tukey HSD test. The profitability of these banks have been evaluated by using various parameters like operating profit margin ,gross Profit margin ,Net profit margin ,Earning per share, Return on Equity, Return on assets, Prices earnings ratio and Dividend payout ratio. The study found that HDFC bank outperformed in terms of gross profit margin, net profit margin, return on assets and price earnings ratio.
- **Goel and Rekhi (2013)** A comparative study of 3 major private and public sector banks in India for the period 2009 to 2012 was made to compare their relative profit earnings. The study showed AXIS bank, one of the leading private sectors bank to have the highest return on assets.
- **Haque (2014)**, found that most of the commercial bank have faced a downward trend in their ROE from 2009 to 2013 while there is a growth of net internet margin for the same period. Despite the global financial system which is experiencing financial crunches, the performance evaluation of Indian banking industry has been stable and sound.

Research Gap

From the study of above researches it is found that, most of the researchers were focus on assessing the profitability of banking sector on the basis of different aspects of profit and returns. The profitability of any organization is mainly dependent on the performance and efficiency of employees and workers. In present research we are trying to identify, is the consistency in performance makes any difference in profitability.

Objectives of the Study

The present study has the following objectives:

- To analyse the profitability position of SBI & ICICI Bank Ltd.
- To highlight the relationship between efficiency of employees and branches with the earnings of selected banks.
- To examine the profitability positions of selected banks on the basis of per employee/branch earnings with the objective to assess their efficiency
- To identify is there any difference in the operational approach in public and private banks?
- To give suggestion to the related banks and make conclusion of the present research work.

Methodology

To analyze the profitability of State Bank of India and ICICI Bank Ltd, Financial statements have been rearranged, summarized & presented in suitable form and various ratios reflecting profitability per employee and per branch have been computed. Data have taken from the published annual reports of State Bank of India and ICICI Bank Ltd. Moreover statistical tools like mean, standard deviation have been applied and hypothesis being tested by use 't' test for independent samples.

Scope of Study

The study covers period of nine years from 2012 to 2020 for the purpose of study, State Bank of India (SBI) and ICICI Bank is selected because State Bank of India is a multinational banking and financial services company based in India. It is a government-owned corporation on the other hand ICICI

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Bank is India's largest private sector bank. Both banks offer a wide range of banking products and financial services to corporate and retail customers through a variety of delivery channels and through its specialized subsidiaries in the areas of investment banking.

Findings and Conclusion

Table 1: Showing the Efficiency of Earning Ratios per Employee and Per Branch of State Bank of India

(Rs. In lakhs)

Years	PER EMPLOYEE RATIOS			PER BRANCH RATIOS		
	Interest Income/ Employee (Rs.)	Net Profit/ Employee (Rs.)	Business/ Employee (Rs.)	Interest Income/ Branch (Rs.)	Net Profit/ Branches (Rs.)	Business/ Branches (Rs.)
2020	107.94	8.31	2,496.72	1,193.35	91.86	27,592.49
2019	103.16	5.81	2,231.69	1,162.20	65.44	25,142.99
2018	83.51	-2.47	1,757.76	983.75	-29.21	20,706.80
2017	83.75	5.00	1,725.38	1,022.24	61.06	21,058.99
2016	78.94	4.78	1,537.71	977.11	59.28	19,032.55
2015	71.48	5.14	1,349.11	833.08	60.21	17,613.54
2014	61.20	4.88	1,168.82	859.22	68.63	16,410.84
2013	52.41	6.17	984.84	797.60	94.02	14,987.04
2012	49.43	5.43	886.85	746.47	82.04	13,393.31
Mean	**72.98**	**4.47**	**1,455.28**	**935.21**	**60.18**	**18,543.26**
SD	**18.09**	**2.85**	**449.07**	**132.85**	**38.01**	**3768.92**
Co. Var.	**24.79**	**63.93**	**30.85**	**14.20**	**63.16**	**20.32**

Source: Annual Reports

The above table reveal that the income from interest per employee of SBI during the study period increasing trends but the coefficient of variation 24.79% which is considered quite high. The net profit per employee of SBI is showing a very volatile performance which raises the question of the inconsistent efficiency of the employees. Again in case of business per employee the coefficient of variation is 30.85% which can be considered high. So we can say that the employees of SBI are not maintained their efficiency consistent during the study period.

In case of branches the performance of interest income, the results are fluctuating but the coefficient of variation is 14.20% which is quit considerable. The net profit per branch is showing a very volatile trend and the coefficient of variation is also very high (63.16%) it shows that there is lack of standards and performance indicators in SBI that's why the variation in the performance of employees and branches is observed.

Table 2: Showing the Efficiency of Earning Ratios per Employee and Per Branch of ICICI Bank

(Rs. In lakhs)

Years	Per Employee Ratios			Per Branch Ratios		
	Interest Income/ Employee (Rs.)	Net Profit/ Employee (Rs.)	Business/ Employee (Rs.)	Interest Income/ Branch (Rs.)	Net Profit/ Branches (Rs.)	Business/ Branches (Rs.)
2020	75.31	7.98	1,425.96	1,404.92	148.96	26,601.41
2019	73.07	3.87	1,428.68	1,300.80	69.00	25,432.22
2018	66.44	8.19	1,297.53	1,129.38	139.25	22,054.04
2017	65.37	11.83	1,151.93	1,116.62	202.08	19,675.69
2016	73.07	13.48	1,186.98	1,185.15	218.57	19,251.45
2015	74.01	16.65	1,129.38	1,212.13	275.93	18,495.92
2014	61.17	13.59	928.49	1,177.14	261.40	17,868.81
2013	64.57	13.41	939.11	1,292.76	268.56	18,802.03
2012	57.55	11.09	873.82	1,218.85	234.93	18,503.91
Mean	66.91	11.54	1,116.99	1,204.10	208.72	20,010.51
SD	6.03	3.96	193.58	67.42	71.76	2531.80
Co. Var.	9.01	34.35	17.33	5.59	34.38	12.65

Source: Annual Reports

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Table 2 showing that the interest incomes per employee is consistent but the mean 66.91 lakhs is less then the mean of SBI 72.98 lakhs. The net profit per employee is showing a volatile trend, the coefficient of variation is 34.35% which is considerable in higher side. The performance of business per employee is significant. So we can say that the employees of ICICI providing more consistent returns in comparison to SBI which reflects that they are very particular about the consistency of their efficiency.

In terms of performance of branches the coefficient of variation is very low in case of interest income per branch and business per branch which showing a picture of consistent efficiency of operations. The net profit per branch create some worry because of high coefficient of variation (34. 38%).

Testing of Hypothesis

I conducted an independent t-test, also called the two sample t-test, independent-samples t-test or student's t-test, is an inferential statistical test that determines whether there is a statistically significant difference between the means in two unrelated groups for the testing of hypothesis.

Ho There is no significant difference between the mean of (Interest Income/Employee) SBI and ICICI bank.

H_1 There is a significant difference between the mean of (Interest Income/Employee) SBI and ICICI bank.

Table 3: Result of Data Analysis for Interest Income/Employees

Difference Scores Calculations

SBI

N_1: 9
$df_1 = N - 1 = 9 - 1 = 8$
M_1: 76.87
SS_1: 3378.28
$s^2_1 = SS_1/(N - 1) = 3378.28/(9-1) = 422.28$

ICICI

N_2: 9
$df_2 = N - 1 = 9 - 1 = 8$
M_2: 67.84
SS_2: 317.7
$s^2_2 = SS_2/(N - 1) = 317.7/(9-1) = 39.71$

T-value Calculation

$s^2_p = ((df_1/(df_1 + df_2)) * s^2_1) + ((df_2/(df_1 + df_2)) * s^2_2) = ((8/16) * 422.28) + ((8/16) * 39.71) = 231$

$s^2_{M1} = s^2_p/N_1 = 231/9 = 25.67$
$s^2_{M2} = s^2_p/N_2 = 231/9 = 25.67$

$t = (M_1 - M_2)/\sqrt{(s^2_{M1} + s^2_{M2})} = 9.03/\sqrt{51.33} = 1.26$

Significance Level: 5% D f: 2.120

Interpretation

The t-value is 1.25988. The p-value is .225781. The difference between the means of both samples is insignificant so that the Ho is correct. It reflects that the tendency of values in both the sample is almost same. The interest earned per employee by both the banks having same trends.

Ho There is no significant difference between the mean of (Net Profit/ Employee) SBI and ICICI bank.

H_1 There is a significant difference between the mean of (Net Profit/ Employee) SBI and ICICI bank.

Table 4: Result of Data Analysis of Net Profit/Employees

Difference Scores Calculations

SBI

N1: 9
df1 = N - 1 = 9 - 1 = 8
M1: 4.89
SS1: 70.23
s21 = SS1/(N - 1) = 70.23/(9-1) = 8.78

ICICI

N2: 9
df2 = N - 1 = 9 - 1 = 8
M2: 11.14
SS2: 121.21
s22 = SS2/(N - 1) = 121.21/(9-1) = 15.15

T-value Calculation

s2p = ((df1/(df1 + df2)) * s21) + ((df2/(df2 + df2)) * s22) = ((8/16) * 8.78) + ((8/16) * 15.15) = 11.96

s2M1 = s2p/N1 = 11.96/9 = 1.33
s2M2 = s2p/N2 = 11.96/9 = 1.33

t = (M1 - M2)/√(s2M1 + s2M2) = -6.26/√2.66 = -3.83

Significance Level: 5% D f: 2.120

Interpretation

The t-value is -3.83161. The p-value is .001471. The difference between the mean of both the sample is significant so that the Ho is rejected. It shows the high volatility in the values of samples which means the performance about net profit/employees is not reliable.

H_0 There is no significant difference between the mean of (Business/ Employee) SBI and ICICI bank.

H_1 There is a significant difference between the mean of (Business/ Employee) SBI and ICICI bank.

Table 5: Result of Data Analysis for Business/Employees

Difference Scores Calculations

SBI

N1: 16
df1 = N - 1 = 16 - 1 = 15
M1: 321.69
SS1: 1940195.4
s21 = SS1/(N - 1) = 1940195.4/(16-1) = 129346.36

ICICI

N2: 15
df2 = N - 1 = 15 - 1 = 14
M2: 291.19
SS2: 1764217.12
s22 = SS2/(N - 1) = 1764217.12/(15-1) = 126015.51

T-value Calculation

s2p = ((df1/(df1 + df2)) * s21) + ((df2/(df2 + df2)) * s22) = ((15/29) * 129346.36) + ((14/29) * 126015.51) = 127738.36

s2M1 = s2p/N1 = 127738.36/16 = 7983.65
s2M2 = s2p/N2 = 127738.36/15 = 8515.89

t = (M1 - M2)/√(s2M1 + s2M2) = 30.5/√16499.54 = 0.24

Significance Level: 5% D f: 2.120

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Interpretation

The t-value is 0.23741. The p-value is .814007. The difference between the means of both samples is not significant so that the Ho is acceptable. The results related to business/employee are consistent during the study period.

Ho There is no significant difference between the mean of (Interest Income/ Branch) SBI and ICICI bank.

H_1 There is a significant difference between the mean of (Interest Income/ Branch) SBI and ICICI bank.

Table 6: Result of Data Analysis for Interest Income/Branches

Difference Scores Calculations

SBI

N1: 12
df1 = N - 1 = 12 - 1 = 11
M1: 473.17
SS1: 2102301.55
s21 = SS1/(N - 1) = 2102301.55/(12-1) = 191118.32

ICICI

N2: 18
df2 = N - 1 = 18 - 1 = 17
M2: 113.71
SS2: 296318.08
s22 = SS2/(N - 1) = 296318.08/(18-1) = 17430.48

T-value Calculation

s2p = ((df1/(df1 + df2)) * s21) + ((df2/(df2 + df2)) * s22) = ((11/28) * 191118.32) + ((17/28) * 17430.48) = 85664.99

s2M1 = s2p/N1 = 85664.99/12 = 7138.75
s2M2 = s2p/N2 = 85664.99/18 = 4759.17

t = (M1 - M2)/√(s2M1 + s2M2) = 359.46/√11897.91 = 3.3

Significance Level: 5% D.f. 2.120

Interpretation

The t-value is 3.29545. The p-value is .002671. The difference between the mean of both the samples is significant so that Ho is rejected. The trends of Interest/branch are also reflecting very fluctuating trend which shows the inconsistency in the performance of branches.

Ho There is no significant difference between the mean of (Net Profit/ Branches) SBI and ICICI bank.

H_1 There is a significant difference between the mean of (Net Profit/ Branches) SBI and ICICI bank.

Table 7: Result of Data Analysis for Net Profit /Branches

Difference Scores Calculations

SBI

N1: 9
df1 = N - 1 = 9 - 1 = 8
M1: 63.7
SS1: 11007.33
s21 = SS1/(N - 1) = 11007.33/(9-1) = 1375.92

ICICI

N2: 9
df2 = N - 1 = 9 - 1 = 8
M2: 202.08
SS2: 39222.95
s22 = SS2/(N - 1) = 39222.95/(9-1) = 4902.87

T-value Calculation

s2p = ((df1/(df1 + df2)) * s21) + ((df2/(df2 + df2)) * s22) = ((8/16) * 1376.92) + ((8/16) * 4902.87) = 3139.39

s2M1 = s2p/N1 = 3139.39/9 = 348.82
s2M2 = s2p/N2 = 3139.39/9 = 348.82

t = (M1 - M2)/√(s2M1 + s2M2) = -138.37/√697.64 = -5.24

Significance Level: 5% D f: 2.120

Interpretation

The t-value is -5.23881. The p-value is .000081. The result shows negatively high difference between the averages of both the samples so that Ho is rejected. It is also reflected in the trends of SBI and ICICI that the % of Cof. of Var. in SBI is relatively doubled to the ICICI.

Ho There is no significant difference between the mean of (Business/ Branches) SBI and ICICI bank.

H_1 There is a significant difference between the mean of (Business/ Branches) SBI and ICICI bank.

Table 8: Result of Data Analysis for Business/Branches

Difference Scores Calculations

SBI

N1: 18
df1 = N - 1 = 18 - 1 = 17
M1: 228.36
SS1: 1614522.47
s21 = SS1/(N - 1) = 1614522.47/(18-1) = 94971.91

ICICI

N2: 18
df2 = N - 1 = 18 - 1 = 17
M2: 270.42
SS2: 1656683.08
s22 = SS2/(N - 1) = 1656683.08/(18-1) = 97451.95

T-value Calculation

s2p = ((df1/(df1 + df2)) * s21) + ((df2/(df2 + df2)) * s22) = ((17/34) * 94971.91) + ((17/34) * 97451.95) = 96211.93

s2M1 = s2p/N1 = 96211.93/18 = 5345.11
s2M2 = s2p/N2 = 96211.93/18 = 5345.11

t = (M1 - M2)/√(s2M1 + s2M2) = -42.06/√10690.21 = -0.41

Significance Level: 5% D f: 2.129

Interpretation

The t-value is -0.40672. The p-value is .686766. The difference between the mean of both the sample is negative but not significant so that Ho is selected. The results show that there is a consistency in the performance of branches in terms of business.

Conclusion

From the above study it can be concluded that State Bank of India Performed inconsistently during the study period. The means of different head were high but there is a problem of maintaining the momentum of performance in SBI during the study period. The study also reflects that in SBI performance indicators are not followed strictly to measure the efficiency of employees as well as branches. It is suggested that the management of SBI should work on the performance indicators and follow strictly to assess the performance of employees and branches with a regular time interval so that it can achieve optimal utilization of resources and consistency in the result. On the other ICICI bank performed more consistently in comparison to SBI bank but the mean of returns per employee and branch are less than the means of SBI. The study revel that the employees and branches of ICICI bank are performing more disciplined bat they need to improve their efficiency to increase the returns on scales.

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ASCENT INTERNATIONAL JOURNAL FOR RESEARCH ANALYSIS

(A Bi-Lingual Multi-Disciplinary Peer Reviewed International Quarterly Journal)

April-June. 2021 Vol. VI ISSUE, II Impact Factor (PIF) 3.455, Indexed in I2OR. Registered & Listed

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Impact of Industrial Development on Urban Environment of Udaipur City

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ABSTRACT

A city develops to perform a range of function, but this range increases in size and complexity with urban growth. Typically the range consists of a combination of industrial, commercial services and tourism activities the absolute and detailed functional characteristics of a city its spatial structure is organized around concentration of an employment opportunities, service facilities and associated land uses and it articulated in relation to the urban transportation system.

The relationship between urban land use structure, transportation system and industrial development can be studied with Udaipur as a case study, in this compatibility, different types of urban structure and transport systems has been studies. This mis match between various land use activities in the planning of Lack city of Udaipur city must be highlighted the ignorance various aspects of environment of tourist center.

Keywords: Concentration, employment, opportunities, land use, transportation, environment, tourist, compatibility.

INTRODUCTION

Under the influence of the stimuli provided by physical environment, or as a result of effort man makes for satisfying his wants, the material or cultural environment is created. Thus, man finds himself between two environment, the physical environment and cultural environment. In these environment is the creation of nature, while the other is the creation of human being. Physical environment offers him stimuli of various kinds of himself with clothes or to seek shelter. To satisfy his wants man must work to get a shelter or to get food or drink. As he satisfies his needs, he thinks to get more and produces more, and it is known as development. Land is cultivated. Irrigation is increased, industries are developed, rivers are bridged, roads and railways are built, towns grow with increasing industries, population and civic amenities with this whole development, the exploitation of resources and wrongly sited industrial plants along with haphazard expansion, ecological imbalance is created and the quality of environment is reduced. The pollution is the negative gift of the human being by industrial development which has been provided through his lust immediate grains without adopting precautionary measures for environmental conservation to face adverse impact in the long run.

Environment resources like atmosphere and water may be regarded as global public goods. Their preservation not only benefits the local population but also that of other countries. The atmosphere envelops the earth, air and water and consequently the soil, through polluted locally yet becomes the part of the globe, leading to environment deterioration at global level. On the contrary, it appropriate steps are taken to eradicate or minimize the pollution; the improvement experienced at local level is bound to lead to the improvement of environment of global level. Thus, the efforts made and expenditure incurred for the abatement of environmental pollution, bound to benefit the people across the national boundaries. In the case of local environmental pollution, the polluters and the victims are different parties and the underlying principle of pollution control instruments is that the polluter pays and more so, it must not be forgotten that polluters also have to be victims of pollution in due course.

The modern expression of relation of man and environment seems accordingly ecological points of view. In which the man is an element of ecological system. Man and environment relationship depends upon action and reaction.

Man is the center of this ecological web and is directly responsible for pollution as well as environmental pollution may be defied as the unfavorable alteration at our surrounding, wholly or largely as a byproduct of mans action, through direct or indirect effects of changes in energy patterns, radiation levels, chemical and physical constitution and organisms.

APPLICATION ASPECT OF INDUSTRIAL DEVELOPMENT ON URBAN ENVIRONMENT

The scheme of sample collection was adopted randomly to study the status of environment of the study area. Samples have been taken on the basis sites located in different direction. The industrial complexes are located particularly in eastern and south eastern and northern part of urban area of Udaipur city. Keeping the view in mind to analyses the samples on the basis of different pollution measures under the certain normes of pollution board. The following schemes have adopted to collect the samples from the different sites of samples.

TABLE

Sample Sites in Industrial Zone

Sample	Sukher	Goverdhan Vilas	Mewar Industrial Area	Debari
Surface water	SW1 Sirsa Cement Udyog vihar, Sukher SW2 Near RIICO water tank	SW3 Near main Goverdhan Vilas SW4 Goverdhan Sagar	SW5 Near Pesticide SW6 Near Soap Stone Factory, Khempura Road	SW7 Near zinc Smelter SW8 Near Bichhari Udainagar
Ground Water	GW1 Near Main Road Sukher GW2 Near Madhav Marble	GW3 Near Highway Crossing GW4 Near Dairy Plant	GW5 Near PIE (FCI) GW6 Near Soap Stone Factory Associated Soap Stone	GW7 Near Plant Area GW8 Near Zinc Colony
Soil	SO1 Near industrial Unit SO2 Near Highway Crossing Road (Shree Swastik Marble)	SO3 Near Dairy Plant SO4 Near Main Goverdhan Vilas	SO5 Near Khempura SO6 Near Railway Crossing	SO7 Near Plant Area SO8 Near Udainagar

Industrial pollution can be defined as an undesirable change in the physical, chemical, or biological characteristics of the air, water or land that can harmfully affect health. Survival or activities of human or other living organisms. Not only that according to interface with human activities.

In real sense "environmental problem are really social problem, they begin with people as cause and with people as victims." (Sir Edmund Hillary).

Hillary. E. (ed) (1984) "ecology - 2000", N Joseph, London

LOCATION OF VARIOUS SAMPLE SITES

Sukher

Sukher village is located along with the N.H. 8 (Ahemdabad- Ajmer) in eastern part of Udaipur city. Basically the sample village has emerged as an industrial area, sukher is extended from Bhuwana to Amberi village area. The following criteria have been taken to into consideration select this village for the sample study to examine the impact of marble industry on environment.

Mewar Industrial Area

Mewar Industrial area is extending from Rnanapratap Nagar bridge (more popularly known as "Thokar Chouraha") to Udaisagar is known as Madri Industrial Area unit. As a matter of fact, this area has two industrial estates Pratapnagar Industrial Estates (MIE). Ranapratap Nagar railway station is the oldest station of the city and has railway yard. All the industrial units along with railway station are located on the left bank of the river affecting the agricultural crops on the both sidse of river Ahar.

The Mewar Industrial Area estate makes an isoscales triangle- keeping apex in the north with southern base made by the Kanpur Udaipur Road and river Ahar.

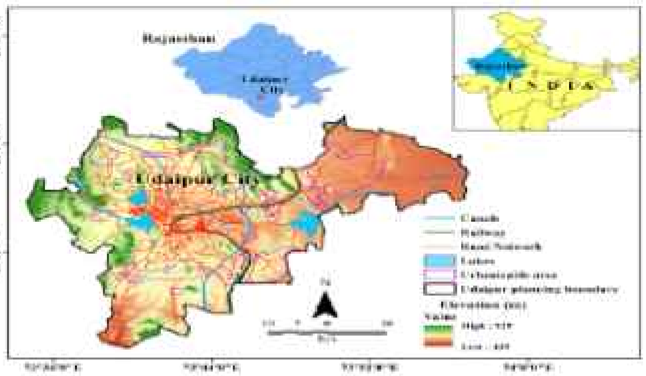
Debari (Zinc Smelter)

Zinc Smelter, Debari, situated 13 kms east of Udaipur city. The Udaipur Chittorgarh section of western railway passes near by the plant the nearest railway station is Debari at the distance of 2.5 kms north and Dabok Aerodrome is only 10 Kms east to it. The plant has been sited just outside the Debari gate and lies down stream of Udaisagar. The selection of the site of the plant is attributed to the assured supply of power from chambal Sub-grid station (1½ Kms E) and trio - transport facility of Rail, Road, Air. It was installed in 1965 and started the production in 1966 December.

Goverdhan Vilas

Goverdhan Vilas is located in southern part of city. This area is located on Udiapur-Ahmedabad national highway. This area is considered for sample study due to its location. It is found that this area is less polluted, perhaps its directions. The Govt. of Rajasthan has not been allowed to setup industiral units there because of the direction of the winds, blows from south west to north east direction, which effects the whole environment of Udaipur.

Study area – location map of Udaipur city



ANALYSIS

Soil

Soil is an important attribute of site suitability analysis for urban development. In context to the land use planning in general and urban planning in particular soil bearing capacity (the ability to support weight readability and stability (the susceptibility to erosion and failure in sloping terrain) and drainage (the capacity to receive and transmit water) are important aspects of soil. The above characteristics of the soil are determined by the particular composition (soil texture) and the amount of water present in the soil.

Soil samples have been collected from here by different sites in surrounding area and which have been collected from different units in locked polythene bags eight samples have been collected from various Industrial areas

The PH of soil determines the sustainability of soil for crops production and influences the availability of plant nutrients. The solubility of some nutrients such as iron, manganese, zinc and copper increases with decreases in PH. Some elements get mixed or their availability is decreased with the decreased in PH. Such as born and molybdenum. The deficiency of these nutrients may result in reduction of crop yield lime and gypsum requirement of soil is dependent on pH.

TABLE
Assessment of Soil Samples in Study Area

Soil Sample	Sampling Location	Direction in Industrial Zone	Distance (In Km)	Description of the sampling location
S01	Near Sukher Industrial Unit	North Eastern	1.05	Industrial area
S02	Sukher Highway Crossing Road	North side	On the Spot	Near Shree Swastik Marble
S03	Near dairy plant	South Western	On the Spot	Just Outside of Dairy Plant
S04	Near main goverdhan vilas	Central area	0.5	Near the Residential Colony
S05	near Kheempura	Eastern	1.25	Near Main Kanpur Road
S06	Near railway crossing	Southg Eastern	1.75	Effected Zone of Soap Stone Factory.
S07	Near plant area	South Eastern	On the Spot	Location of main Plant area
S08	Near Udaisagar	Western	2.5	Just near of Udaisagar

TABLE

Parameters of Soil Samples and test Analysis

S. No.	Soil Test	Classification	
1.	pH	< 4.50 extremely acidic 4.50 -5.00 very strongly acidic 5.00 -5.50 strongly acidic 5.50 -6.00 moderately acidic 6.00 – 6.50 slightly acidic	6.50 – 7.30 natural 7.30 – 7.80 slightly alkaline 7.80 – 8.50 moderately alkaline 8.50 – 9.00 strongly alkaline 9.00 < very strongly alkaline
2.	Salinity electrical Conductivity (mm)	Up to 1.00 average 1.01 - 2.00 harmful to germination 2.01 - 3.00 harmful to crops sensitive to salts	
3.	Organic Carbon	Up to 0.2 very less 0.21 – 0 less 0.41 – 0.5 medium	0.61 – 0.8 an average sufficient 0.81 – 1.0 sufficient > 1.0 : more than sufficient
4.	Nitrogen (kg/ha)	Up to 50 very less 51 – 100 less 101 – 150 good	151 – 300 better Above 300 sufficient
5.	Phosphorous (kg/hm)	Upto 15 very less 16 – 30 less 31 – 50 medium	51 – 65 an average sufficient 65 – 80 sufficient Above 80 more than sufficient
6.	Potash (kg/ha)	0 – very less 120 – 180 less 181 – 240 medium	241 – 300 Average 301 – 360 better Above 360 more than sufficient

Source: - RCA Dept. of Soil Science, Udaipur

Water Pollution

Udaipur city is known as city of lakes, but this urban center is facing the problem of water pollution. Since last two decades it is necessary to discuss the problem of water pollution.

Water pollution means adding to water of an excess of material that is harmful to humans, plants, animals or otherwise causes significant departure from the normal activities of various living communities in or near bodies of water. Water standard differs for different uses.

Major pollutants are classified into the following categories:

1. Sewage and other Oxygen Demanding Wastes.
2. Infectious Agent
3. Plant Nutrients
4. Toxic Organic Chemicals
5. Inorganic Minerals and Chemical Compounds
6. Sediments
7. Radio Active Substances and
8. Heat

Several waterborne infectious diseases are directly related to polluted water. 60 percent of the population is dependent on the ground water for drinking. It is mainly polluted by seepage pits, refuse dumps, septic tanks, barn yard, menders and diverse agricultural, chemical or biological pollutants. Sewage waste and the industrial waste water is being thrown into rivers without treatment, which is polluting

The river water to such an extent that most of Indian rivers water to such an extend that most of Indian, rivers have been highly polluted and their water is no longer portable. Rivers are further polluted by garbage, agricultural waste, fungicides. pesticides, pesticides, plastic packing materials and heavy metals, by discharge of oils and petroleum products and by dumping of radio - active waste into sea. The large amount of plastic waste dumped into the oceans has already threstened marine life.

The various ways techniques suggested for prevention and control of water pollution are-

1. Stabilization of Ecosystem.
2. Reutilization and Recycling of Water And
3. Removal of Pollutants.

WATER ENVIRONMENT

Surface Water

Impact on surface water would be due to waste dumps management. Firstly due to wrong selection of site i.e.

It slumping is done around water sources, nallahs etc. even if it is nallah it disturb the original natural water source and ultimately effect the quantity of water going to main water sources. Secondly it checks dams or drains are not made towards down stream side of waste dump then the from the waste will be transported to main surface water source resulting in siting of the ponds, thereby reducing their capacity to hold water.

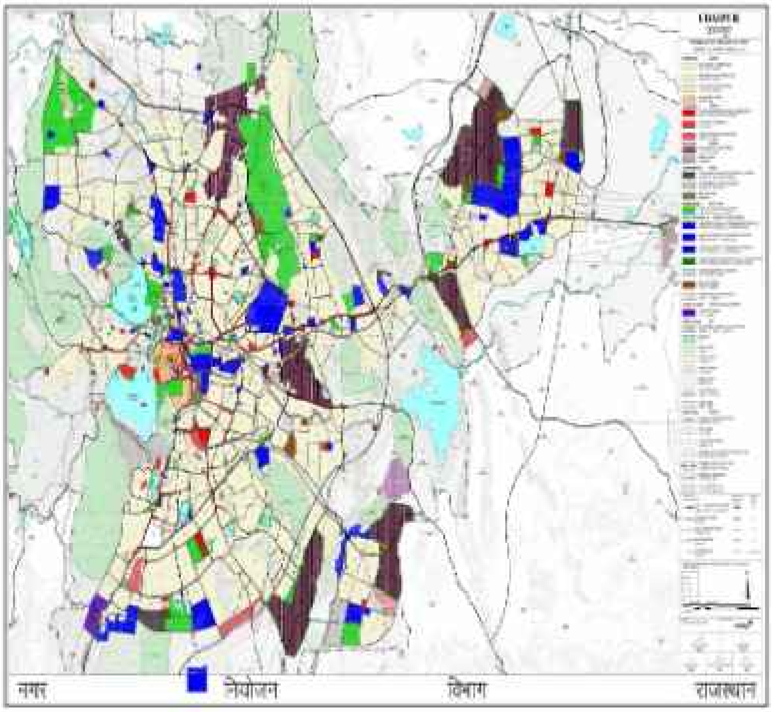
Ground Water

As far as impact on ground water resources due to water dumping are concerned dumps, when stops natural flow of rain, Water may not allow seepage of water in certain cases. But wherever seepage in there, it will pollute and contaminate the ground water because soluble constitutes will percolate to ground water

Water Quantity

i. Due to transport of fines, a part of fines remains in suspension thereby polluting the water.
ii. Quality of water will also effect quality of water as soluble matters would be transported with rain water.
iii. Tailing ponds used to dispose of tailings of the beneficiation plants would allow seepage of water in the ground and if these water contains harmful chemicals which are generally used for beneficiations as agent of mine waste water itself contains harmful soluble matters, these would go into ground water resource along with water seepage and pollute ground water in absence of any abatement measure.

Udaipur Master Development Plan 2031 Map



CONCLUSION

It was observed that industrial activities like, marble processing units, soap stone factories have a considerable negative impact on the land water air and on biological resources of the region. In support of the above, hypothesis the following observation have been analysed during the field study.

Since the industrial units involves various activities like earth moving equipment's, crushing, processing, loading etc. all these have adverse effect on urban environment Samples were collected for the study of Air pollution in industrial units, present interesting facts that the industrial units are polluting urban environmental specially pesticides, soap stone factories such factories should be shifted far from the residential area. The whole surrounding region of Udaipur city is highly affected by air pollution.

Soil pollution was also tested through sample study. The following results have been observed, Soil samples were collected from the different sites located in Sukher, Madri, Mewar and Goverdhan Vilas Industrial Area.

Study of water pollution is considered as a main indicator in environmental aspects. In urban area water pollution caused by various activities like industrial, urban and municipal wastage.

It is matter of fact that industrial units have changes the natural environment of the study region. It is also concluded that the waste material of urban environment creates adverse impact of the natural environment of the city and pollutes the soil, air, water and land of the region where industries are located.

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Kala Sarovar **ISSN: 0975-4520**
(UGC Care Group-I Journal) **Vol-24 No. 02 April-June 2021**

CLOUD COMPUTING ADOPTION AND DETERMINING FACTORS IN DIFFERENT INDUSTRIES: A CASE STUDY OF DEVELOPING COUNTRIES

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ABSTRACT
The distributed computing model is an advanced idea of calculation that gives various advantages to its adopters. This internet figuring model has been generally utilized in the western world and acknowledged to have some business and monetary effects. This paper gives some essential information about distributed computing and examines the best advantage which is cost decrease in fixed ICT capital and administrations. With such the advantage, this examination endeavors to discover the deciding variables for distributed computing appropriation in different ventures and proposes some approach suggestions as needs be to encourage the dispersion of the imaginative processing model just as the broad acknowledgment of its advantage. Developing countriesis chosen as ground for examination. The discrete decision model of calculated relapse is chosen as an econometric apparatus to extricate the connections of various ascribes and the likelihood of distributed computing selection in 206 enterprises. The outcomes call attention to huge deciding components ordered into Internet and innovation; cost; and a few challenges in ICT use. Thus, some strategy suggestions to build the chance of reception incorporate a push to improve web ability of representatives; give some speculation motivators, for example, charge decrease and ease credits for starting set-ups of distributed computing frameworks; and create solid web network with cutting edge capacity and ease of utilization.

KEYWORDS: Cloud figuring; Economic advantages of the cloud; Cloud registering appropriation; Binary relapse; Thai ventures

INTRODUCTION

Distributed computing is intended to serve the organizations by expanding the registering execution, stockpiling limit, widespread openness and cost decrease. This can profit a large portion of the little and medium undertakings (SMEs) in the underlying phase of business improvement as far as fixed and support cost decrease in the ICT venture of both equipment and programming just as PC administrations. Despite the fact that this sort of registering frameworks has been in the online world and applied to different administrations in western nations, specifically the US for a long time, the idea of distributed computing is still new to many non-industrial nations remembering Developing countriesfor which there are arising organizations basically yearning for low expenses of foundation and effective cycles. Besides, there are macroeconomic advantages from the cloud. In fact, the cost decrease highlight of the distributed computing model outcomes in higher chance of business creation, particularly SMEs, which at that point prompts higher work and yield for the nation.

This paper gives fundamental information on the distributed computing and a few instances of the current cloud administrations suppliers. A significant advantage of the cloud, cost decrease, is called attention to. The goal of this investigation is to discover factors that influence the distributed computing selection in different ventures in Developing countries. The discrete decision model of calculated relapse is utilized to remove the deciding components of the likelihood of distributed computing reception. Strategy suggestions are additionally gotten from the consequences of the model.

The structure of the paper is as per the following. Section 2 comprises of important works of writing with respect to the issues of distributed computing and its effects on the economy in both full scale and microeconomic viewpoint. Section 3 shows the general, yet important information on distributed computing including the definitions and cycles. Section 4 expounds the financial advantage of cost decrease from the selection of the distributed computing. Section 5 depicts the data with respect to the distributed computing in Developing countries. Section 6 is the information and approach. Section 7 shows the outcomes and conversations. Section 8 calls attention to some approach suggestions for both private and public units. At long last, the end is given in Part 9.

Kala Sarovar ISSN: 0975-4520
(UGC Care Group-I Journal) Vol-24 No. 02 April-June 2021

RELATED LITERATURE

Starter, there is a work of writing with respect to the essentials of distributed computing administration definition. The most exhaustive scientific categorization might be gotten from an article of Rimal et al. (2010) that gives not just an outline of the distributed computing engineering, yet in addition itemized clarifications of every one of the segments comprising of methods of distributed computing administrations, virtualisation the executives, center administrations, security, information administration, and the board administrations. Their work contributes a lot of better comprehension of the arrangement of the distributed computing and its applications to additional exploration of comparable issue including this investigation.

Another significant work of writing calls attention to the establishment innovation that is utilized to make accessible the distributed computing frameworks. The method is called virtualisation innovation (Jin et al., 2010). The article likewise expounds the virtual machines or VMs, which are the result and spine of the distributed computing using the intensity of a figuring model called MapReduce.1 The examination portrays the VM as a product execution of a machine that can run programs like a customary PC. As per the discovering, there are various types of VM. A few models are measure VM, which is pre-introduced with a solitary program and can execute just the introduced programming, for example, Java Runtime Environment (JRE), and framework VM of which its capacities are near a PC as in the client can handle the entire stage, the working framework (OS), and execution of various programming applications.

In term of definition, Foster et al. (2009) have analyzed the distributed computing and framework figuring and propose similitudes and contrasts between the two concepts.2 They are comparable as far as their vision, design, and innovation. Be that as it may, there are contrasts begun in different viewpoints, for example, security, model of business, programming, figuring and information just as applications and reflections. All things considered, the correlation of the two sorts of registering is past the extent of this investigation.

Thusly, this paper focuses primarily on the issue of distributed computing and its information. For that respect, an intriguing review of the distributed computing is clarified in an article by Armbrust et al. (2010). In the article, they give an essential meaning of the distributed computing and the cycle of the administration conveyance alongside 10 obstructions and chances of the usage of the distributed computing with viable models including an instance of information move bottleneck. Also, the monetary advantages of distributed computing are solidly sketched out in the paper by Tahakder et al. (2010). This bit of writing amasses financial advantages and expenses of distributed computing alongside its inward economy, for example, charging, charging, and tax assessment from the cloud items and administrations. They show that financial advantages are somewhat solely gotten from the idea of pay-more only as costs arise estimating. Truth be told, they additionally bring up the decrease in beginning set-up expenses of the online substance suppliers and a sharp expansion in the quantity of open administrations to the end-clients. In spite of the alluring motivators to receive the distributed computing model, organizations face a significant concern comprising of protection and security issues (Kshetri, 2011). Such issues incorporate the mysterious area of information stockpiling and unlawful access of delicate data. A lot of concern has been placed in non-industrial nations as they are generally viewed as a wellspring of digital wrongdoing.

A quantitative investigation of the effect of the distributed computing is led based macroeconomic displaying and information of European nations. For sure, Etro (2009) utilizes the dynamic stochastic general harmony (DSGE) way to deal with check the effect of the distributed computing in term of the decrease in fixed expenses of SMEs and reasons that a progressive presentation of the distributed computing model outcomes in the formation of organizations and work through bringing down the underlying expense of ICT capital.

Klems et al. (2009) furthermore underscore on the requirement for valuation of the distributed computing and propose a system for assessment and correlation of various types of the cloud use. Their exploration is intended to help leaders in receiving the distributed computing as their IT arrangement. The assessing cases comprise of the use of distributed computing administrations by New York Times TimesMachine, which is a functioning on the web news supplier, and Major League Baseball that utilizes the cloud to adapt to occasional tops sought after for web based telecom of unbelievable matches.

There are a few ascribes that support the advancement and arrangement of the distributed computing. These components are clarified by Gartner (2009). The empowering variables of the cloud comprise of administration

Kala Sarovar ISSN: 0975-4520
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based figuring, adaptable and flexible processing assets, shared assets, pay per use estimating, and administration conveyance through the Internet.
For the writing with respect to the distributed computing in Developing countries, Oradeedolachet (2010) demands that this cutting edge registering model will be the new ICT pattern that benefits different ventures whose center organizations may not really move in the ICT field. He advances a particular method of
administrations considered cycle as an administration that will profit the clients, or clients, by making a connection between related specialty units and giving the intensity of administration joining dependent on the cloud administration. One of his models is a cloud administration interface that can safely associates all cycles in getting the credit from a monetary organization going from contributing clients' data to utilizing the approved sum for a buy at another organization. This can save a ton of time and cash contrasted with the conventional paper-based cycle.

CLOUD COMPUTING OVERVIEW

The meaning of the distributed computing is fundamentally a sort of calculation that is directed in namelessly imparted assets to the yield being conveyed to the clients through Internet interfaces. In fact, developments and executions of present day Internet innovation are the main thrust that encourages the cloud advancement. Under the haze figuring system, the data is put away, or normally transferred, in workers and gave as administrations. The arrangement of processing power as an administration has broadly occurred after the improvement of Web 2.0 in which the product stage can be used through the Internet (O'Reilly, 2007). For quite a long time, the distributed computing model has been used in an assortment of utilizations one may not notification. Models incorporate electronic messages, online web crawlers, and long range informal communication locales (SNS). The clients don't have to introduce a particular programming. All they require is an internet browser to get to the online assistance interface. Moreover, they don't have to know how and where the processing is being led as they are not liable for any challenges simultaneously. The conveyed yield is the lone concern.
There are a few methods of administration which will be talked about later in this part. As per Jin et al. (2010) and Armbrust et al. (2010), it is to be noticed that there are three principle sorts of the cloud. To begin with, it is the public cloud that offers processing administrations to anybody on a use based valuing guideline, or the pay-more only as costs arise idea. This kind of cloud can be viewed as utility processing as it is pretty much like the utilization of public utility, for example, power and water. Public cloud suppliers store their customers' data in a bunch of shared workers. Later investigations of this paper depend on the public cloud guideline as it is the principle worry with huge effects in general economy not confined uniquely to various enterprises. Second, it is the private cloud. This sort of cloud offers the processing administrations to a particular venture or a gathering of firms that share comparable to interests or require high security as the figuring workers are not imparted to other people. The last kind of distributed computing is the mix of the initial two sorts. Henceforth, it is called half and half cloud. The arrangement under the cross breed cloud incorporates some part for general purposes under utility figuring and some devoted workers under private understanding.

Categories of Service Delivery

As referenced before, the distributed computing can be conveyed under various methods of administration by means of web interface. For the simplicity of effortlessness and understanding, three evident classes of cloud administration conveyance are explained (Rimal et al., 2010). Note that all the administrations are devoured continuous over the Internet and most models are public cloud suppliers.
To start with, Software as a Service (SaaS) is the most well-known type of the cloud administration conveyance. SaaS depends on the idea of multitenancy where a solitary occurrence of programming can serve various customers all the while. The end-clients regularly experience the SaaS arrangement through utilizations of online substance, for example, Google Applications, Facebook, and Sales Cloud by SalesForce.com.
Second, Platform as a Service (PaaS) advances as help for the designer as in it takes out the weight of producing and keeping up foundation in on-premise frameworks, and abbreviates the improvement time with an extraordinary number of continuous accessible apparatuses and administrations with scaling ability. To be sure, this method of administration gives an online foundation of complete cycle for web application designers to create, test, send and

convey their applications through facilitating administrations. Instances of PaaS incorporate GoogleAppEngine, Microsoft Azure, and Heroku.com.

Third, Infrastructure as a Service (IaaS) then again gives PC framework as an administration in which clients can get to online by means of web interface. IaaS clients profit by a lot of adaptability in information stockpiling and its installment dependent on the pay-more only as costs arise idea. With the benefit of most recent innovation, the clients can accomplish quick administrations and time to market of their items. Another bit of leeway is that the capacity limit under IaaS is likewise adaptable as indicated by use interest. A few models are SmartDataCenter by Joyent, Amazon Elastic Compute Cloud (EC2), and GoGrid.

Cloud Computing in Practice

Some broad ideas of distributed computing have been expounded before, it is worth to observe how the cloud can be used as a general rule. For the reference perspective, the distributed computing consolidates both XaaS, where X represents programming, stage, framework, or some other sorts of administration arising later on, and utility figuring. Along these lines, it could possibly incorporate the private cloud. The usage of distributed computing can not be passed on independently. Indeed, three gatherings are included.

To begin with, it is the fundamental unit that can encourage the improvement of distributed computing. The cloud supplier aggregates fundamental equipment and figuring framework to give registering power as per utilization based valuing. One of the noticeable models is Amazon whose figuring offices are popularized through Amazon Web Services (AWS).

Second, it is the cloud client or XaaS supplier that effectively creates and gives novel applications the innumerable underwriting of framework and instruments provisioning by the cloud supplier. Evident occasions incorporate these web content suppliers, for example, Facebook (SaaS), eyeOS (PaaS), or Amazon EC2 and Simple Storage Service (S3) (IaaS).

Third, it is the XaaS client who devours any sort of administration conveyed generally through web interfaces. The XaaS client can be anybody going from singular web surfers, private undertakings to government elements. Surprisingly, the cloud client can be the XaaS client too. This happens when the cloud client builds up any sort of XaaS utilizing viable application programming interfaces (APIs) and conveys it through a mashup that incorporates the administration from other XaaS suppliers. A model might be an online route specialist organization who coordinates its guides and areas to be shown in Google Maps.

Figure 1 Cloud Computing Utilization Process

Source: Images from websites

The relationship is evident as appeared in Figure 1 that in the distributed computing model, the online specialist organizations (cloud clients) can use the processing offices of the cloud supplier with full control of the framework notwithstanding the effortlessness in programming establishment with no support trouble under utility registering or pay-per-use premise. New applications can be created, put away, and conveyed without any problem. Through the web applications, the end-clients can understand the advantages of data sharing, thorough APIs, and information stockpiling for SaaS, PaaS, and IaaS, separately.

A model case is that MTV, which is one of the world's acclaimed diversion broadcasting networks with its very own few channels, utilizes video encoding administrations from Encoding.com to adapt to enormous approaching recordings sent from around the globe in various arrangements. The recordings are then moved to Encoding.com cloud administration and being prepared bringing about 6 MTV-viable documents in at regular intervals. All the finished records are naturally conveyed to MTV real time feature for its crowd (Encoding.com, 2011).

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Encoding.com at that point depend on Amazon Web Services, for example, Elastic Compute Cloud (EC2) and Simple Storage Service (S3) (AWS, 2011). The monetary stream begins at MTV (SaaS User) when it pays for the video encoding administration, as per moment of utilization, from Encoding.com (SaaS Provider/Cloud User), which at that point pays for the calculation and capacity administrations from Amazon (Cloud Provider). One can see that the cloud client and end-clients don't have to buy the vital foundation and stress over the upkeep related costs, while they need to spend just some cash on the administrations gave on the web.

CLOUD ECONOMICS

Aside from the way that there are a few advantages from the appropriation of the distributed computing model brought up by Armbrust et al. (2010) and Talukder et al. (2010), it tends to be determined that the main one for an industry is the cost decrease. Clearly, this advantages little firms at starting stages or huge firms partner with new IT-related activities. There are a few perspectives to cover.

To begin with, as per the way that the cloud administrations are use based or pay-more only as costs arise valuing, both little and enormous endeavors can at first change the utilization and cost of their IT-related organizations in an effective manner. This thought is like the estimating of public utility, for example, water, power, and gas in which the client just pays for the utilization and there is no requirement for interest in the framework or explicit gear, which may represent a ton of cash. More often than not, the cloud administrations might be used at a lower rate in the first place and at either sequential rate as indicated by the interest. This happens when the business has become normalized or the cloud administrations have been broadly acknowledged for more business exercises and become exceptionally dependable. Hence, the firm going into the cloud can encounter the cost decrease toward the start and the adaptability of cost the board sometime in the not too distant future in its IT-related exercises.

Second, the first utilization based estimating highlight of the distributed computing model offers ascend to the transformation of capital consumption (CapEx) to operational use (OpEx). To be sure, little undertakings with restricted speculation capacity can set aside a ton of cash in the fixed venture of ICT capital, for example, figuring machine by using the cloud benefits and dealing with the adaptable OpEx. A couple of PCs with fast Internet association are adequate to encounter the cloud advantage. For instance, the firm can utilize the distributed computing administration to achieve an errand requiring 10 hours and 5 VMs today and no utilization afterwards.4 The installment to the cloud specialist organization is determined from just the 10-hour use and gathered just a single time until the following use is produced. The organization pays just the utilization cost without buying the necessary potential PCs identical to 5 VMs and let them go inert after the undertaking is finished. Accordingly, the organization can proficiently deal with its OpEx as opposed to needs to stay with the significant level of wasteful fixed speculation of CapEx.

Third, the cost decrease comes from the end of significant expenses of equipment speculation and programming permit charge just as PC administration related weight, for example, overhaul and upkeep. Under the haze figuring model, the cloud specialist co-op is the person who is answerable for such the weight to guarantee clients dependability and soundness of the creating registering offices. The organization can observer this immediate advantage following the reception of the distributed computing. Indeed, it can guide the venture to the across the board processing use without worries over issues, for example, equipment and programming related expenses and frameworks upkeep. A higher number of VMs on the cloud is charged by the use without other monetary and administration related weights, for example, acquisition of on-premise PCs and the necessary programming, for example, working frameworks, office programming, and security bundles alongside the update. All the financial advantages of the distributed computing are summed up in Figure 2.

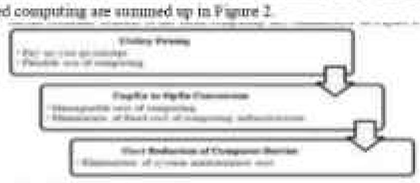

Figure 2 Cloud Adoption Cost Advantage

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A genuine model situation where the cost decrease is capable is the choice to go For conversations about virtual machines (VMs), allude to Jin et al. (2010) into the cloud by New York Times senior computer programmer Derek Gottfrid. His venture, TimesMachine, recently prevailing with regards to changing over TIFF pictures to PDF and made them accessible for the articles from 1851 to introduce. Notwithstanding, as the volume developed immensely, the inside offices were not adequate. Furthermore, it is more helpful and productive to have pre-created PDF documents instead of convert them from the picture records. Thus, he chose to utilize Amazon's Elastic Compute Cloud (EC2) and Simple Storage Service (S3) to deal with the assignment. With the equal registering capacity, the organization could deal with 4 Terabyte of information in a brief timeframe. The entire cycle of transferring the records to S3, perusing and changing over them in EC2, and putting away them back to S3 could be cultivated in 36 hours (Gottfrid, 2007). The organization can set aside a ton of cash from utilizing the cloud administration. It can take out the high fixed capital speculation and take part in low and customizable operational costs, which are probably going to happen arbitrarily. There is no extra interest in the equipment and
programming in light of the fact that solitary the utilization is charged. The organization can likewise sidestep the support issues and proceed with its center business movement.

CLOUD COMPUTING IN DEVELOPING COUNTRIES

In spite of the fact that the distributed computing has picked up its prominence and broad use in the western world, it is as yet under the fundamental phase of advancement and arrangement in Developing countries. All things being equal, there is a decent sign that the new model of figuring is being considered for selection and usage in both of general society and private area in the nation as of the acknowledged advantages in different nations.

Cloud Computing in the Public Sector

The Thai government has understood the weight of the individuals in the general medical care administration in the feeling of data assortment and capacity. Undoubtedly, it is difficult to move patients' information starting with one medical care element then onto the next due to inconsistent frameworks. Every one of the substance gathers information autonomously of each other utilizing its own techniques and programming stack. The vast majority of the information assortment and capacity exercises are done inside the medical care unit. It is infrequently conceivable that pertinent information of a patient can be moved starting with one emergency clinic then onto the next in any event, for better symptomatic administrations in light of the specialized issue of similarity.
Service of Science and Technology facilitated an occasion in which the Prime Minister was an executive in January, 2011 to deal with such the issue by creating and encouraging the normalization of the exchange a lot of wellbeing related data. The Memorandum of Understanding (MOU) was endorsed by all gatherings engaged with the issue, in particular Ministry of Science and Technology, Ministry of ICT, Ministry of Public Health, Ministry of Industry, and Ministry of Education. One of the activities is to build up a distributed computing framework and its viable programming occasions to make productive information move among different elements. The venture is as yet in advancement dealt with by research branches from Ministry of Public Health and National Electronics and Computer Innovation Center (NECTEC), which is an auxiliary of the Ministry of Science and Technology. They named the task "Brilliant Health." right now, the investigation is being led on starter issues, for example, cycle and apparatuses to change over and confirm the information just as security necessity of touchy data (NECTEC, 2011).

Cloud Computing in the Private Sector

Until further notice, a couple of organizations in Developing countriesare utilizing the distributed computing in light of the fact that the model is still new to the nation and in the primer stage where a ton of tests are needed to guarantee dependability of the framework. This is because of little information about the cloud and absence of extensive programming, or applications. Additionally, there are a couple of homegrown cloud suppliers. Consequently, it is the phase of arrangement of data and tributes of the cloud right now. Numerous organizations have a positive view toward the distributed computing model and are happy to receive it for their business. With this issue, a significant homegrown cloud supplier, True IDC, was set up in 2004. For a long time, it had understood that its potential clients were still shy of programming advancement information for the cloud. Hence, it teamed up with

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Software Park, which is a public association liable for the improvement of programming specialists, to have classes giving distributed computing information and visible programming advancement. The joint effort project ran from March to December, 2010 at Software Park offices in which the distributed computing specialists and frameworks were given by True IDC. In the class, programming engineers from both huge and little organizations became acquainted with about important data of the distributed computing model and how it very well may be utilized for business purposes by and by. From that point onward, to guarantee similarity, application improvement measures were performed on True IDC stage. The organization gave free use of its VMs for programming improvement and information stockpiling to each member of the task (Bangkokbiznews, 2010). Therefore, the quantity of organizations that can use their IT framework by going into the cloud increments. What's more, True IDC additionally offers more types of assistance to satisfy clients' need for IT arrangement. The cloud supplier asserts that it keeps on developing with solid cloud administrations in view of its reliable IT foundation and worldwide accomplice, which is DACOM from South Korea. The greater part of the customers of True IDC right now comprise of homegrown case carriers and web based gaming organizations. The administrations being offered are co-area, committed workers, web facilitating, and some worth added administrations, for example, stockpiling back-up and security firewall5

DATA AND METHODOLOGY

From the past data about the distributed computing, the facts confirm that this model can make a ton of financial advantages. Private undertakings get a lot of advantage from the distributed computing appropriation as depicted in papers by Armbrust et al. (2010) and Tahakőer et al. (2010). The most alluring motivator is a lot of decrease in association's ICT spending. Hypothetically, the distributed computing is likewise accepted to create critical effects on the economy as it prompts improvement of the nation's macroeconomic elements (Etro, 2009). Along these lines, the distributed computing is said to impact business, yet additionally macroeconomic improvement of the nation.
A suspicion for additional investigations is that various firms will discover approaches to limit costs. As indicated by the way that the distributed computing is as yet in the fundamental phase of improvement in Developing countries, there is no immediate quantitative estimation for it. In any case, the distributed computing reception can be theoretically estimated as far as possible appropriation concerning variety in the expense of ICT administrations.

Data

The reliant variable or the intermediary for the cloud selection is estimated as a proportion of PC administration spending to add up to ICT spending. Any industry that has the worth more than the normal estimation of all ventures is probably viewed as a cloud adopter. Undoubtedly, this proportion gauges the view of the expense of PC administrations, which incorporate framework overhaul, support, and insurance against information security danger, for a specific industry. At the point when the worth is higher than the normal, that industry sees its PC administration spending to be high; along these lines, is happy to acknowledge any new way to deal with lower such expense. As clarified before, the distributed computing model can give the advantage of cost decrease of the PC administrations; thus, the business with a high estimation of the proportion can be viewed as a potential cloud adopter. Since this is a roundabout estimation of the distributed computing appropriation, the reliant variable is called speculative cloud reception (HCA) whose inference is portrayed in Figure 3.

Figure 3 Formulation of the Dependent Variable (HCA)

The count can be partitioned into two phases. Initial, a portion of PC administration spending altogether ICT spending for every industry is processed. At that point the normal of the figured proportions is determined. Once more, enterprises that experience a higher incentive than the normal are the potential cloud adopters since they need to diminish the PC administration spending, which is made conceivable by utilizing the distributed computing model.

There are absolutely 820,137 foundations classified commonly of business into 206 enterprises. All study results are acquired from the National Statistical Office (NSO). The time of study is 2007. The example bunch comprises of various substances from all pieces of Developing countries. The intrigued business explicit variables can be arranged into five unique credits. They are general variables, Internet and innovation, site utilization, cost components, and challenges in ICT use. Every one of the four ascribes are estimated as far as number of foundations, while the cost factors are estimated as measure of real spending in homegrown cash (Thai Baht). The last quality is to be commented that one foundation is permitted to pick more than one trouble alternative in the review. Inside each quality, there are sub-credits, which at that point make 32 informative factors altogether.

All the factors and their truncations are appeared in Table 1 underneath. Every factor speaks to a particular characteristic of one industry. One industry is a mix of numerous foundations of comparable nature.

Table 1 Summary of Variables

Variable	Description	Mean	Std. Dev.
Dependent Variable			
HCA	=1 if the industry is a potential cloud adopter; =0 otherwise		
General Factors			
GF1	Number of Establishments	3 981	12 717
GF2	Number of Employees	20 447	41 227
Internet	*and Technology Factors*		
IT1	Number of Establishments with Internet Usage	516	1 217
IT2	Number of Employees using Internet	3 017	8 628
IT3	Number of Establishments using Dial-up Connection	295	733
IT4	Number of Establishments using ISDN	27	94
IT5	Number of Establishments using xDSL (ADSL, SDSL)	205	496
IT6	Number of Establishments using Cable Modem	15	45
IT7	Number of Establishments using Leased Line	26	104
IT8	Number of Establishments using Wireless Connection	8	34
Web site	*Usage Factors*		
WS1	Number of Establishments using Web site	176	431
WS2	Number of Establishments using their own web site	148	359
WS3	Number of Establishments using other web portals	29	87
Cost Factors			
CF1	Total ICT Spending	82 041 414	158 365 997
CF2	Computer Hardware Spending	18 165 504	51 732 997
CF3	Computer Software Spending	9 169 951	23 931 159
CF4	Communication Service Spending	45 470 158	96 313 924

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Perception of Difficulties in ICT Usage

DT1	Number of Establishments perceiving technology changes too fast	542	335
DT2	Number of Establishments perceiving labour lack of ICT skills	426	333
DT3	Number of Establishments perceiving difficulty in finding qualified staffs	365	290
DT4	Number of Establishments perceiving high cost of Internet connection	355	308
DT5	Number of Establishments perceiving technology too complicated	348	296
DT6	Number of Establishments perceiving security concerns	523	459
DT7	Number of Establishments perceiving slow/unreliable data communication	408	405
DT8	Number of Establishments perceiving lost of working time due to irrelevant surfing	283	314
DT9	Number of Establishments perceiving goods/services not suitable for online sales	132	168
DT10	Number of Establishments perceiving customers not ready for e-commerce	137	152
DT11	Number of Establishments perceiving web site maintenance cost too high	165	197
DT12	Number of Establishments perceiving e-commerce development cost too high	162	186
DT13	Number of Establishments perceiving difficulty in e-payment	142	200
DT14	Number of Establishments perceiving uncertainty in contracts/delivery/warranty	128	191
DT15	Number of Establishments perceiving logistic problems	100	142

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Aside from the definition and clarification of factors, it is likewise fascinating to give some enlightening examinations on the distributed computing selection in various gatherings of businesses. For straightforwardness, all enterprises are sorted into four gatherings as per their overall nature, which are producing, development, business exchange, and administration. Note that the business exchange branch does exclude monetary and banking enterprises as they are remembered for the administration gathering.

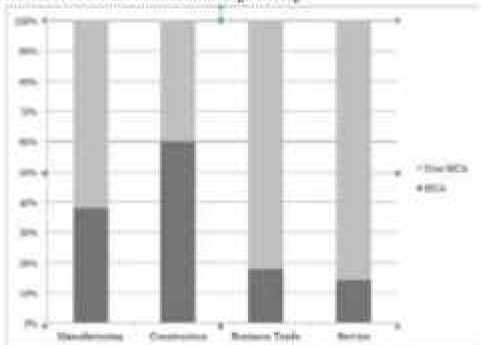

Figure 4 Percentage of Cloud Computing Adoption in Different Groups of Industries
Source: The Author

Figure 4 shows that the distributed computing reception is viewed as high in development and assembling gathering while it is still low in business exchange and administration gathering. In fact, the distributed computing model is received by very nearly 60 and 40% of businesses in the development and assembling gathering, separately. Then again, around 10 – 20% of enterprises in the business exchange and administration branch are conceivably picking the cloud.

METHODOLOGY

As per the way that this investigation endeavors to break down study information, a discrete decision model is viewed as practical. To deal with arbitrariness and non-ordinariness of the gathered information, the parallel logit model is utilized for solid results. The assessing calculated condition is: where HCA is the parallel ward variable. There are five ascribes with the sub-credits as per the number spoke to by n. The model is assessed regarding various ventures, I, which has the absolute estimation of 206. The assessment approach for condition (1) depends on greatest probability (Gujarati and Porter, 2009). Condition (1) is assessed to clarify the impact from each quality on the likelihood of an industry receiving the distributed computing model.

RESULTS AND DISCUSSIONS

A diagram of the assessment results begins from the estimation of R2. This figure at that point underpins the illustrative intensity of the model up to around 40%. For the straightforwardness in understanding, minimal impacts, instead of coefficients, are introduced alongside other vital measurements in Table 2. Thusly, further conversations of the connection between the logical and ward variable should be interpreted as an adjustment in likelihood of distributed computing appropriation coming about because of an adjustment in every one of the qualities with the size equivalent to the comparing estimation of minimal impact.

Table 2 Results of Logistic Estimation

Variable	Marginal Effect	Std. Err.	Z-Stat.
General Factors			
GF1	-0.0001	0.0001	-1.3800
GF2	4.69E-06	2.93E-06	1.6000
Internet and Technology Factors			
IT1	-0.0004	0.0013	-0.3100
IT2*	3.87E-05	2.10E-05	1.8400
IT3	0.0017	0.0014	1.1900
IT4*	-0.0079	0.0046	-1.7100
IT5	-0.0004	0.0016	-0.2600
IT6	-0.0047	0.0037	-1.2700
IT7*	0.0050	0.0028	1.7700
IT8	-0.0054	0.0052	-1.0300
Web site Usage Factors			
WS1	0.0130	0.0316	0.4100
WS2	-0.0131	0.0318	-0.4100
WS3	-0.0150	0.0321	-0.4700
Cost Factors			
CF1***	1.03E-07	2.19E-08	4.7000
CF2***	-1.21E-07	2.51E-08	-4.8300
CF3***	-1.13E-07	2.56E-08	-4.4100
CF4***	-1.17E-07	2.50E-08	-4.6800
Perception of Difficulties in ICT Usage			
DT1	-0.0034	0.0043	-0.7800
DT2	-0.0032	0.0058	-0.5400
DT3	0.0076	0.0047	1.6200
DT4**	-0.0137	0.0060	-2.2700
DT5**	0.0111	0.0051	2.1900
DT6	0.0045	0.0049	0.9200
DT7	-0.0104	0.0071	-1.4800
DT8	0.0037	0.0053	0.6900
DT9	-0.0061	0.0136	-0.4500
DT10	-0.0070	0.0107	-0.6500
DT11	0.0005	0.0134	0.0400
DT12	0.0009	0.0147	0.0600

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DT13	-0.0058	0.0138	-0.4200
DT14	-0.0017	0.0147	-0.1100
DT15	0.0328	0.0210	1.5600
Number of observation		206	
LR chi2(32)		110.5	
Prob > chi2		0.0000	
Log likelihood		-70.7574	
Pseudo R2		0.4365	

Note: *, **, and *** represent significant level of 10, 5, and 1 percent, respectively.

General Factors

Clearly both GF1 and GF2 are not genuinely huge. This implies that neither the quantity of foundations nor representatives has any effect on the appropriation of the distributed computing in example businesses. Subsequently, it tends to be interpreted that the size of industry doesn't make a difference in the choice to receive the distributed computing model. Despite the fact that it has been expressed that the advantage of cost decrease is acknowledged particularly in SMEs (Etro, 2009), ventures in Developing countries, paying little mind to estimate, may have comparable interests in going into the cloud.

Internet and Technology Factors

A fascinating outcome to bring up here is the essentialness of IT2. To be sure, this shows that the significant main thrust for an industry to embrace the distributed computing is the quantity of representatives utilizing the Internet, instead of foundations utilizing the Internet (IT1). With 90% certainty level, an industry with a higher number of representatives utilizing the Internet has a higher likelihood of distributed computing selection. This underscores the way that the distributed computing model depends on Internet interfaces and human asset with Internet proficiency is viewed as important to encourage the utilization of the distributed computing applications in a specific industry.
For the innovation angle, one can see that genuinely, there are two huge factors, which are IT4 and IT7. The previous one has a negative sign implying that it negatively affects the distributed computing reception, while the last one can be deciphered in a contrary manner as of its positive sign. Once more, with 90% certainty level, an industry with a higher number of foundations utilizing ISDN (IT4) encounters a lower likelihood of distributed computing selection, yet that with a higher number of foundations utilizing rented line (IT7) has a higher likelihood to receive the distributed computing model. As such, one all the more firm utilizing ISDN brings down
the likelihood of distributed computing selection by about 0.8 percent, while a similar increment with rented line innovation brings about 0.5 percent expansion in the reception likelihood for the business. The conversation here is that despite the fact that distributed computing exercises don't need in-house complex registering assets, they require a solid rapid Internet association to stay away from information bottleneck issue (Armbrust, et al., 2010). For that issue, the ISDN doesn't fulfill the proficient use of the distributed computing regarding pace and unwavering quality when contrasted with the rented line association. Consequently, it results as a block to the selection of the distributed computing.

Web website Usage Factors

None of the site factors are genuinely huge. Along these lines, regardless of whether an industry has various site clients isn't pertinent to the choice to utilize cloud administrations. Despite the fact that the clients (XaaS User) can deal with the registering cycle by means of web interfaces, it isn't vital that business clients needs to utilize sites habitually, or have their own site. The web interface of the cloud administrations is streamlined with broad easy to understand climate. It is a result situated, as opposed to deal with arranged framework. The clients don't need to concern how the processing movement is done, nor do they need to consider support trouble. This component of the

ISSN: 0975-4520
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cloud administrations is unique in relation to the current sites. Consequently, one can observer immateriality of number of firms utilizing sites, either own or facilitating, in the appropriation of the distributed computing for a specific industry.

Cost Factors

All factors here have the most elevated level of measurable importance, which is 99 percent certainty level. The absolute ICT burning through (CF1) is decidedly identified with the likelihood of distributed computing reception, while equipment (CF2) and programming burning through (CF3) just as correspondence administration burning through (CF4) bring about negative effect.

When all is said in done, it is generally acknowledged that the distributed computing model is cost-saving as in it can assist an industry with bypassing a tremendous measure of capital consumption in figuring framework to a modest quantity of variable expenses as per each processing task (Talukder, et al., 2010). In this manner, an expansion in the complete ICT cost makes the distributed computing selection more alluring to the business gave that one of its significant objectives is cost decrease. This outcomes in a higher likelihood of reception of the cloud administrations following the expanded ICT cost. By and by, for explicit parts of the expense structure, the negative connection between the likelihood of distributed computing selection and PC equipment and programming costs might be clarified by the way that in the short-run fixed interest in figuring assets and programming licenses can't be inevitable because of use agreements and arrangements. The last clarification for another particular sub-quality is very clear that the likelihood of distributed computing reception is lower because of an expansion in correspondence administration costs since it causes a greater expense to the use of distributed computing. In reality, when the expense of essential Internet association is viewed as high, the reception of the cloud administrations is inconvenient. This is typical; thus, hiders the dispersion of distributed computing model in an agricultural nation whose network foundation for Internet availability is immature and temperamental by and large.

Perception of Difficulties in ICT Usage

For the troubles in ICT utilization, measurably, there are two huge factors. With 95 percent certainty level, an expansion in the quantity of foundations communicating significant expense of Internet association (DT4) prompts a fall of around 1.4 percent in the likelihood of distributed computing reception. Be that as it may, an expansion in the quantity of foundations seeing innovation excessively convoluted (DT5) brings about an ascent of 1.1 percent in the likelihood of the appropriation.

The conversation here is needlessly direct. To start with, like the cost ascribes, when various foundations see that the expense of Internet association is high, the likelihood of embracing the distributed computing model for the entire business is lower. Once more, a dependable Internet association is fundamental for the distributed computing, and such the association is regularly only valued. Second, it is a fascinating conversation about the intricacy of the innovation that drives an industry towards the cloud. This can be clarified by an uncommon element of the distributed computing model that makes calculation straightforward on the grounds that it is administration based and task-arranged of which all the necessities in figuring measures are being taken consideration by the cloud or XaaS supplier (Gartner, 2009). Consequently, when an industry considers existing
innovation excessively convoluted, it has a high propensity to receive the distributed computing model for straightforwardness in calculation separated from the money saving advantage.

There are other fascinating outcomes worth a conversation despite the fact that they are not genuinely significant. To start with, the quantity of foundations communicating a worry on the trouble of finding qualified faculty (DT3) is a driver for the business to embrace the distributed computing model. This can be viewed as strong to the straightforwardness and promptly operational element of the distributed computing as referenced previously. Despite the fact that certified staffs are difficult to enlist, the business is in an ideal situation embracing the cloud since it very well may be used by individuals from different foundations. Second, security concerns (DT6) are not significant in the reception of the distributed computing model for the example businesses. This diverges from a suggestion of Kshetri (2011). The explanation may incorporate the way that the distributed computing idea is still new in this nation and most ventures put higher loads on expense and innovation factors as observed in past

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discoveries. Third, the impression of low and temperamental information association (DT7) is viewed as an obstruction to the distributed computing appropriation. By and by, this accentuates the worry on information availability as it is imperative in the cloud world; consequently, it affirms the past outcomes.

POLICY IMPLICATIONS

There are sure strategy ramifications got from the consequences of the investigation that the distributed computing selection is related with three primary variables for a specific industry. These are cost decrease, straightforwardness of utilization, Internet-educated work and dependable Internet association. The approach suggestions in this segment are supported for both industry and government as they are significant parts in the advancement of distributed computing appropriation in a nation.

To begin with, every industry, industry pioneers, associations, or authority may endeavor to improve the pace of distributed computing reception by giving trainings and information on the most proficient method to use Internet interfaces to their labor force. Such the trainings may incorporate workshops and conversations of the Internet just as the cloud administrations, which are assembled and ready to just work over online interfaces. This will expand the Internet proficiency rate for workers and set them up for the moving toward distributed computing appropriation. Aside from that, the business and included gatherings in the private area may consider to outfit their endeavor with dependable rapid Internet association to have the option to go into the cloud world at a quicker speed.

Since the worry is raised at agricultural nations on which the job of government is all-powerful as market system can't exclusively be depended, the strategy proposals require more exertion, despite the fact that they are engaged with a great deal of public venture, the impact is accepted to be enduring bringing about supportability in the nation's media communications advancement. To start, the public authority and public power, for example, National Regulatory Agency (NRA) may give some cost impetuses to upgrade the distributed computing appropriation. Such the impetuses incorporate expense decrease on ICT capital, particularly the use costs, for example, undertaking rented line association, minimal effort credits for beginning set-up of distributed computing related frameworks, and some solid cures on the current fixed venture of ICT for a specific industry. The last motivating force is referenced in light of the fact that the current fixed ICT capital, particularly in equipment and programming, is viewed as deterrent to the appropriation of the distributed computing. Such the cures may incorporate techniques to move fixed ICT-related resources into opened up capital prepared for interest in the distributed computing frameworks, all things considered. Additionally, the public authority may endeavor to create framework for cutting edge

Web association, for example, fiber and new age organizations (NGNs) to give basics for the cloud benefits and forestall the issue of bottleneck. The primary explanation the public authority should be the fundamental part in the foundation building, or if nothing else be accountable for the cycle, is to guarantee sensibly low expenses. Without a doubt, ventures will consider receiving the distributed computing if the expense of solid Internet association is low.

CONCLUSION

There are various advantages happened from distributed computing as found in the western world. Probably the best advantage underlined here is the cost decrease in fixed ICT speculation and administrations. This investigation attempts to discover the deciding elements for the distributed computing selection by utilizing a discrete decision model. The agricultural nation chose as ground for examination is Developing countriesin which the distributed computing model is as yet in its underlying stage, however has gotten consideration from both public and private area.

The distributed computing has gotten a great deal of considerations from government and private undertakings in Developing countries. Fundamental, the public authority is attempting to advance distributed computing usage in the medical services area in which wellbeing related data will be put away and moved all the more proficiently on viable cloud framework. The undertaking Smart Health has just begun under coordinated effort of five services. In the private area, True IDC is an extremely dynamic in the advancement of distributed computing selection in the nation. The organization has been arranging a ton of workshops to teach IT faculty in a wide range of business about the distributed computing and its advantages. Right now, there are a few clients of the cloud administrations in which the vast majority of them are minimal effort carriers and internet gaming organizations.

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ISSN: 0975-4520
Vol-24 No. 02 April-June 2021

The intermediary for the distributed computing selection is the proportion of PC administration spending for a specific industry. On the off chance that it is more than the normal, all things considered, at that point that industry is a potential distributed computing appropriation given that the distributed computing model can lessen the expenses of PC administration, for example, update, support, and security, and every industry looks to limit expenses of activity.

The outcomes show that deciding elements for the appropriation of the distributed computing incorporate Internet and innovation, expenses, and a few troubles in ICT utilization for an industry. For the main factor, Internet-proficient representatives just as rented line association are drivers, while ISDN innovation brings about a negative effect in the distributed computing selection. Second, greater expenses of absolute ICT spending is a main impetus towards the cloud, while that of equipment, programming and correspondence administration spending are impediment of the selection. At last, the impression of significant expense of Internet association is viewed as a hindrance, while the difficulty of innovation is the driver for an industry to go into the cloud.

Strategy suggestions start from the private side that incorporate human asset advancement with accentuation on Internet education to set up an industry for the cloud world. At that point the public authority or public authority may start ease framework improvement for rapid solid Internet association just as give important motivating forces, for example, charge decrease and ease advances for the set-up of distributed computing.

Further examination might be led after the distributed computing has just been broadly utilized in various undertakings in the nation to observe the real effect of the distributed computing selection by utilizing a more fitting intermediary. Relative examinations should be possible with respect to the instance of Developing countriesand some different nations.

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ISSN: 0975-4520
Vol-24 No. 02 April-June 2021

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IJCERT
International Journal of Computer Engineering in Research Trends
Multidisciplinary, Open Access, Peer-Reviewed and fully refereed
Research Paper | Volume-8, Issue-4 , April 2021 Regular Edition | E-ISSN: 2349-7084

Effective E-Governance Paradigm through Cloud Environment

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Available online at: http://www.ijcert.org

Received: 03/04/2021, Revised: 12/04/2021, Accepted: 18/04/2021, Published: 26/04/2021

Abstract: Cloud technologies give a fundamental move in the provisioning of figuring asset inside the administration. This research article characterizes the difficulties that leaders face while surveying the achievability of the adequacy of cloud technologies in their associations, and characterizes our Cloud Effectiveness Outline, which has been made to continue this procedure. The system gives a structure to continue chiefs in choosing their interests, and coordinating these worries to appropriate strategies that might be taken to determine them. Expenditure Prototyping is the principle experienced strategy in the structure and this research article currents its adequacy by exhibiting how professionals may utilize it to analyze the operating cost of conveying their IT outlines on the cloud. The Expenditure Prototyping procedure is assessed through a contextual analysis of an administration that is taking into tallies the movement of not some of its IT outlines to the cloud. The contextual investigation currents that running outlines on the cloud through a conventional „always on" approach might be less practical, and the flexible idea of the cloud must be taken to decrease Expenditures. Hence, chiefs must have the option to paradigm the varieties in asset utilization and their systems" arrangement decisions to take precise quotes.

Keywords: Cloud registering, legislative modify, cloud adequacy, choice feasible, outline organization, foundation prototyping

1. Introduction

Cloud technologies are the most recent exertion in conveying registering assets as a help. In spite of the fact that there are numerous meanings of cloud technologies [e.g. 1, 2], the US National Institute of Standards and Technology (NIST) has cloud a operational definition that has caught the normally concurred parts of cloud technologies [3]. This definition characterizes cloud technologies as "a paradigm for empowering advantageous, on-request organize access to a common pool of configurable figuring assets (e.g., systems, personnel, stockpiling, software's, and highlights) that might be quickly provisioned and delivered with negligible administration exertion or specialist co-op association" [3]. Cloud technologies currents a move away from processing as an item that is claimed, to registering as an assistance that is

Neha Paliwal et.al, "Effective E-Governance Paradigm through Cloud Environment," International Journal of Computer Engineering In Research Trends, 8(4): pp: 61-75, April -2021.

conveyed to shoppers over the web from enormous scope server farms – or „clouds". Cloud technologies are by and by being utilized by innovation new companies because of its showcased properties of resourcefulness, unwavering quality and Expenditure-viability. Governments are likewise commencement to show an enthusiasm for cloud technologies because of these guaranteed benefits. In some case, at current a ton equivocalness and vulnerability exists with respect to the genuine acknowledgment of these guaranteed benefits, as there is by and by a great deal publicity, especially around the Expenditure reserve funds of cloud technologies which are encircled on oversimplified establishments. We accept that in the enormous term, cloud technologies is probably going to profoundly affect the manners in which programming is acquired, made and sent, equalent with the effect of moving from centralized servers to PCs.

These research article's unique commitments are to:

1. Highlight the difficulties of cloud viability in the administration and show that choices on moving IT highlights to the cloud ought not just be controlled by Expenditure contemplations yet ought to likewise take a progression of socio-specialized elements into tallies.
2. Suggest a Cloud Effectiveness Outline, which gives a lot of procedures that continue dynamic throughout the viability of cloud technologies in an administration.

Our structure is confined on a structure to arrange contemplating choice makers" concerns and match these to methods that settle these worries, where every strategy empowers leaders to concentrate on and paradigm diffelease characteristics of their administrations or IT outlines. These paradigms may then be taken to reason about and explore cloud viability choices. For instance, by prototyping equipment outline and software's, it gets conceivable to evaluate the operating cost of running that outline in the cloud, and henceforth choose whether conveying that outline foundation in the cloud would be savvy. Besides, by choosing the effects of a Suggested outline to persons" work exercises, its commonsense and socio-political possibility might be resolved. For instance, a outline might be savvy yet socio-politically infeasible in the event that it possibly diminishes work fulfillment and sabotages existing force bases or administrative qualities [4].

This research article begins by featuring the difficulties of cloud viability in the administration (Part 2), and currenting the Cloud Effectiveness Outline (Part 3). We at that point center around outline Expenditure prototyping and whether it bodes well to utilize the cloud. A contextual investigation is taken to assess the Expenditure Prototyping procedure, and show that the Expenditure sparing evaluations that are regularly refered to by cloud suppliers may not be summed up over all IT outlines as they rely upon the particular asset use and the sending decisions being taken by a outline (Part 4). The research article finishes up by looking at the consequences of this contextual analysis with another contextual investigation that was completed as of late, and depicting our future work (Part 5).

2. Difficulty of Cloud Effectiveness

2.1 Cloud issues description

The viability of cloud technologies is a developing test that administrations face in the close term as the financial matters of cloud technologies become more appealing after some time because of economies of scale and rivalry among suppliers. Organizations, for instance, Amazon, Google and Microsoft are putting huge wholes in building their open mists and they appear to be driving the path in the mechanical advancement of mists by delivering incessant updates and new highlights for their highlights. For instance, a brief glance at Amazon Web Features" (AWS) news archive1 currents that they turned out more than 10 new and mechanically noteworthy highlights to their cloud contributions in 2009. AWS additionally delivered a Security2 and an Economic3 focus on their site, which currents that there is client interest for counsel about the ramifications of through cloud technologies. There is an open door for the assessment network to determine this interest by giving free and fair exhortation, strategies and methods to government clients who are keen on cloud viability.

The adequacy of cloud technologies in government situations is non-inconsequential. Considering the legislative benefits and downsides is a long way from direct as the reasonableness of the cloud for some classes of outlines is obscure or an open-research confronts; Expenditure counts are convoluted because of the quantity of factors including contributions to the utility charging paradigm of cloud technologies; the adequacy of cloud technologies brings about a lot of administrative modify that shall influence persons" work in significant ways and corporate administration contemplations with respect to the utilization of cloud technologies are not surely known.

2.1.1 Expenditure estimation

Considering the operational operating cost of open mists is entangled as the clouds utility charging paradigm is a move away from money to operational planning, and utility charging has a specific level of vulnerability that makes it non-insignificant to appraise, contrasted with equipment securing. The vulnerability identifies with: I) the real assets devoured by an outline, which are controlled by its heap; ii) the organization Substitute taken by an outline, which may influence its operating cost as assets, for instance, Information transmission are more Expenditure among mists contrasted with transmit speed inside mists; iii) the cloud administration supplier's estimating plan, which may modify whenever. The result is that leaders are confronted with a great deal vulnerability in regards to the best supplier and whether cloud adequacy is more financially savvy than other more conventional types of IT provisioning, for instance, co-area.

Considering the operational operating cost of private cloud is likewise getting progressively troublesome because of the expanding significance of Power operating cost and carbon outflows. Worries for rising Power Expenditures that might be exacerbated by government drove carbon charges [5]. For instance, it is anticipated that, by 2015, the operational operating cost of IT foundation could surpass its underlying funds buy Expenditures over a 5-annual lifecycle [6, 7]. This assessment confronts is especially essential to cloud technologies as its concentrated asset sharing worldview could be utilized to upgrade Power effectiveness.

2.1.2 Modify in authority

Considering the significance and the degree of the legislative modifies related with cloud adequacy is a troublesome test. We contend that legislatures need to comprehend the expansiveness of modifies and the exertion requisite to roll out these improvements so as to comprehend their benefits, dangers and effects. The accomplishment of cloud viability "is as a great deal subject to the development of administrative and social (counting authoritative) forms as the innovation, fundamentally" [8]. The procedure is probably going to be prolonged and few anticipate that it could take among 10 to 15 annuals before the common government makes this move [9].

A wide number of modifys shall emerge all through an association:

• Expenditureing shall modify as equipment and system outline isn't secured direct; it shall be expended as a help and paid for simply like an utility.

• Protection shall modify as virtualization currents new weaknesses [10], and there could be clashes among clients and cloud suppliers who are both endeavoring to solidify their security methods [11].

• Conformity shall modify as the geographic area of information shall not be actually known in the cloud; this has enormous term suggestions for governments worried about information security [12, 13, 14].

• Plan the board shall modify as the authority of the IT division shall be disintegrated by cloud technologies. Cloud technologies is progressively turning "clients into choosers" [15], and venture administrators may supplant the highlights gave by the IT office with highlights offered in the cloud. This is as of now beginning to occur, for occasion in BP, where a gathering skirted the composes IT office by through Amazon Web Features to have another client confronting Portals4.

• System continue shall modify as heads shall no longer have unlimited oversight of a system's foundation some longer. Their work could progressively include reaching cloud suppliers and hanging tight for them to investigate outline inconveniences. Such a situation was as of late revealed by Jesper5 who's Software, which was running on Amazon EC2, went under a forswearing of administration assault and needed to hold up more than 16 hours before the issue was fixed.

• Finally, ought not to something be said about crafted by end clients? The cloud may support shared work yet what may clients do when the cloud goes down? They may not advise Google or Amazon to organize their concern as they could before with their IT division.

The legislative modifies shall not be clear and shall require a lot of the executives exertion because of the profoundly interconnected nature of heritage outlines, its political idea encouraged administrative modify, and the confronts of adjusting specialized outlines and governments.

Huge governments definitely have profoundly interconnected foundations including countless figuring outlines that have been made over an enormous timeframe. These rely upon diffelease advances, have diffelease „owners" inside the administration and have complex conditions both among the outlines themselves, the information that they procedure, the middleware taken and the stages on which they run. Business forms have developed to utilize the arrangement of outlines accessible and these frequently depend on explicit outline highlights. Ordinarily, there is no individual or gathering inside the administration who thinks pretty much the entirety of the outlines that are being used, and conditions are frequently found coincidentally while few thing basically quits operational after a modify has been made. For universal organizations, diffelease purviews imply that a similar outline in diffelease nations must be taken and continued in diffelease manners.

Moreover, IT arrangement is significantly influenced by political contemplations [16, 17]. Senior administration in the legislature may set IT strategies however these are left to singular pieces of the administration to establish in their own particular manner [18]. Directors normally probably embrace methodologies that benefit their piece of the organization and the other way around. Personnel oppose modifys that start from diffelease pieces of the administration [19]. At the between bunch level, the pressure among focal IT arrangement and end clients has been steady since the 1960s with objections from clients that focal highlights are unsealing or incapable to react rapidly to changing client necessities.

The arrangement of IT in huge governments is characteristically intricate, for the reasons referenced previously. For cloud technologies to convey genuine worth, it must be adjusted to the administration instead of essentially be a stage for basic errands, for instance, Software testing or running item demos. In this way the contemplations around moving Software outlines to the cloud and fulfilling the necessities of key outline allies must be investigated. These allies incorporate specialized, undertaking, activity and budgetary supervisors just as the designers who shall be creating and continuing the outlines. Cloud technologies aren't just an innovative improvement of server farms yet a crucial modify by the way IT is provisioned and taken [20]. Subsequently, the adequacy of cloud technologies shall modify crafted by diffelease outline allies in the legislature, and this shall require impressive exertion.

Cloud adequacy choices are trying starting at a progression of down to earth and socio-political reasons. It is impossible that all legislatures shall totally redistribute their back-end processing necessities to a cloud specialist co-op. Or maybe, they shall build up heterogeneous figuring conditions confined on devoted personnel, administrative mists and conceivably more than one open cloud supplier. How their Software portfolio is conveyed over this condition depends on specialized contemplations as well as on socio-specialized components (e.g., worries about Expenditures, privacy, and control), the effect on work practices and imperatives got from existing business paradigms. In this way, the difficulties that ought to be resolved are:

i) To give exact Information on operating cost of cloud viability;

ii) To support hazard the executives; and iii) to guarantee that chiefs may make educated compromises among the benefits and dangers.

2.2 Interrelated effort

Scholastics are commencement to show enthusiasm for the difficulties of cloud adequacy in the legislature. An ongoing survey of the scholastic exploration in cloud technologies uncovered that there are by and by no develop strategies or systems accessible to support dynamic throughout the adequacy of cloud technologies in the administration [21, 22]. In industry, [23] and [24] are instances of regular contributions from IT consultancies that endeavor to fill this hole. Such methodologies experience two difficulties: they are surrounded on shut restrictive procedures that are not broadly accessible; and they are frequently joined by Expenditure consultancy periods. Conversely, we contend that given the Cloud Effectiveness Outline, governments may survey the plausibility of through cloud technologies in their legislatures rapidly and efficiently without outside specialists. In some case, the structure may likewise be taken by chiefs to confirm the cases made by IT consultancies and cloud specialist co-ops.

The cloud technologies writing has so far analyzed the operating cost of through the cloud by means of individual contextual analyses [4, 25, 26, 27], and analysts, for instance, Walker [28, 29] have set down not insome of the hypothetical establishments for Expenditure prototyping. What's more, Buyya"s CLOUDS Lab has made CloudSim [30], which is a helpful structure for the prototyping and reenactment of cloud technologies situations. As clear by the utilization cases referenced in [30], CloudSim is more fit to engineers who are worried about the exhibition of their software's, and cloud suppliers, for instance, HP who are keen on prototyping the properties and asset use of server farms. Conversely, the Cloud Effectiveness Outline and explicitly the Expenditure Prototyping procedure are focused at leaders in the administration who are keen on sending medium or enormous scope IT outlines on the cloud. The Expenditure Prototyping strategy fills a hole in the curlease exploration by empowering chiefs to paradigm the organization of complex IT outlines on diffelease mists, including their sending decisions and use designs just as diffelease cloud suppliers" evaluating plans and some future value modifies.

The writing has not so far inspected the administrative modify contemplations with respect to cloud viability by and large. We as of late played out plausibility Assessment of a Suggested cloud-encircled IT outline at a SME in the oil and gas industry [4]. We found that notwithstanding the guaranteed budgetary benefits, probability's to expel monotonous work from IT staff and the possibility to enter new commercial centers, alma in the entirety of the allies bunches were nonpartisan or hesitant to continue a transition to the cloud because of concerns with respect to its effect on their work, expanded danger of reliance upon outsiders and its suggestions for client support and support. Hence, from an administration point of view, Expenditures are significant however so too are client connections, open picture, adaptability, business coherence and consistence.

3. The Cloud Effectiveness outline

The Cloud Effectiveness Outline contains a theoretical structure for sorting out choice makers" concerns and an instrument to join supporting procedures for every one of these worries. Leaders may utilize some strategies/procedures that they wish; in some case, we are creating and suggest joining five methods/strategies that we accept to be conceivably helpful: Technology Fitness Assessment; Power Utilization Assessment; Collaborator Effect Assessment; Liability Prototyping and Expenditure Prototyping.

3.1 Conceptual Outline

The motivation behind the theoretical system for cloud dynamic is to sort out choice makers" pondering the worries that they and diffelease allies have, and the procedures that might be taken to investigate these worries. It is significant that leaders see the Suggested cloud adequacy

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venture from diffelease collaborators" points of view so as to gain from an assorted arrangement of allies concerns and get a wide arrangement of input from the legislative condition. Figure 1 gives an outline of the Cloud Effectiveness Outline and how it might be taken.

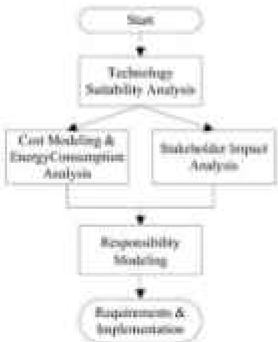

Figure 1. Cloud effectiveness conceptual outline

Leaders may begin with a Technology Fitness Assessment, and in the event that the cloud is seen as appropriate for their outline, they at that point continue by researching either the operating cost of running the outline on open mists, or the Power utilization (and consequently Power Expenditures) of running the outline on private mists. Simultaneously, Collaborator Effect Assessment might be executed to evaluate the effects of through cloud technologies on crafted by allies in the administration. In the event that these assessments show that running the outline on the cloud is a suitable Substitute, at that point Liability Prototyping might be executed to distinguish and investigate the dangers related with the activity of the outline on the cloud, where diffelease cloud suppliers might be answerable for diffelease parts of the outline.

The procedure outlined in Figure 1 is a glorified introduction and, practically speaking, we anticipate that method clients ought to utilize the parts of our structure that they feel are fundamental reasonable. We don't authorize a specific procedure of utilization.

Directly, our method for outline Expenditure Prototyping is the fundamental full grown and few continue for Technology Fitness Assessment and Collaborator Effect Assessment is accessible. Work on Power Prototyping is still at a beginning phase and we have not yet incorporated a Liability Prototyping method. In some case, Liability Prototyping is encircled on a curlease documentation, made in a diffelease undertaking [31, 32], and we are certain that joining this into our theoretical structure is a generally clear errand.

3.2 Technology Fitness Assessment

The motivation behind Technology Fitness Assessment is to continue leaders in deciding if cloud technologies are the correct innovation to support their Suggested outline. Considering the attributes of cloud technologies is significant as it can possibly show drastically diffelease properties to those of conventional government server farms. This is for the most part because of the clouds exceptionally adaptable nature, real asset sharing among virtual machines, expected contemplations to do with correspondence over the web and deficient assurances in regards to the up-time and dependability of preparing and information stockpiling highlights. For instance, regular IaaS contributions make no consoling certifications about worker uptime or system execution. This has significant ramifications for the practicality of specific classes of programming paradigms and business-basic outlines.

Innovation Fitness Assessment involves a basic agenda of inquiries to give a fast appraisal of the powerful appropriateness of a specific cloud administration for a particular government IT outline. The crease variant of the agenda, appeared in Table 1, investigations eight attributes and rapidly gives a sign of the cloud"s reasonableness for a Suggested IT outline. The result of the Assesment is a proposal of whether to continue with further Assessment

Table 1: Technological Fitness Assessment

Preferred Technology attributes	Queries
1. Flexibility	- Whether our software architecture continues expanding out? - In case no, shall expand up to a larger server?
2. Interactions	- Whether the bandwidth inside the cloud and amongst the cloud and other systems enough for our Software? - Whether the latency of Information transmit to the cloud is suitable?
3. Processing	- Whether the CPU power of instances suitable for our Software at the expected operating load? - Whether the instances have enough memory for the Software?
4. Access to hardware / personalized	- Whether our cloud supplier provide the requisite access to hardware Components or bespoke hardware?

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hardware	
5. Availability dependability	- Whether our cloud supplier provides a suitable SLA? - Whether we are capable of creating the suitable availability by assimilation of geographical locations or service suppliers?
6. Security necessities	- Whether our cloud service supplier meets our security necessities? (e.g. do they sustain multi-factor authentication or encrypted Information transmit)
7. Information confidentiality and privacy	- Whether our cloud supplier provide sufficient Information confidentiality and Privacy assurity?
8. Regulatory necessities	- Whether our cloud supplier complies with the requisite regulatory necessities of our organization?

3.3 Expenditure Prototyping

The Expenditure Prototyping procedure continues the prototyping of the operating cost of running a worker outline on the cloud. It along these lines continues cloud viability choices in two diffelease ways:

1. It encourages leaders to take precise quotes of running IT outlines on the cloud. The strategy enables chiefs to research the operating cost of moving a curlease IT outline or sending another IT outline on the cloud, the operating cost of relocating an IT outline starting with one cloud then onto the next, or even future Expenditures heaps of future remaining task at hand and the supplier's evaluating plan.
2. It continues outline draftsmen in assessing the plan of a Suggested IT outline as for its operational operating cost and permits them to think about the operating cost of diffelease decisions.

The procedure doesn't by and by endeavor to take into considers the consequences of programming modifies that might be requisite to increase most extreme benefit from through outside cloud highlights. Or maybe, we center around foundation relocation where we expect that curlease programming may run unaltered on a far off as opposed to a nearby worker.

The resourceful idea of the cloud implies that chiefs need a method to continue them in looking at the operating cost of their particular outlines as every arrangement situation has diffelease asset utilization designs. The varieties in asset utilization and a system''s arrangement decisions ought to be prototypeed to empower leaders to consider real operating cost instead of the Expenditure sparing assessments that are regularly refered to in the press or by cloud suppliers. As we show later, our method incorporates a straightforward language to portray variable use designs for processing assets.

Expenditure Prototyping is surrounded on and broadens the capacities of UML organization graphs [33], which empower a system''s sending to be prototypeed. In its quintessence, an UML arrangement outline empowers clients to paradigm the organization of programming antiquities onto equipment hubs. The Expenditure Prototyping method empowers clients to paradigm a system''s programming softwares and how they could be conveyed on cloud, conventional or half and half outlines. The paradigm is then prepared to give clients a precise gauge of the operational operating cost of their outline. The paradigms may take into checks future asset requests in this manner empowering for circumstances where conventional outline may not at first be financially savvy, yet shall get practical with future remaining task at hand increments.

3.4 Power Utilization Assessment

The reason for Power Utilization Assesment is to support leaders in deciding the ideal Power utilization of their own private cloud outline. This is significant, as there are money related compromises to be made among Power effectiveness and execution. This method is by and by a work in progress and assesments concerning this region are continuous. The contributions of the Assesment are the curentation per-unit-Power qualities of real machines at diffelease levels and sorts of usage (for instance I/O concentrated versus CPU escalated) and execution necessities of virtual machine instances. The acquiences of the Assesment are proposals for load slanting [34] to guarantee that the most minimal conceivable Power is taken to meet the virtual machines execution prerequisites. Extra assesment is being led to comprehend what sorts of programming designs limit Power utilization.

3.5 Collaborator Effect Assesment

The reason for Collaborator Effect Assesment is to continue leaders in deciding the socio-political practicality, or benefits and dangers, of a Suggestd IT outline. This is significant as cloud viability ventures are not only mechanical redesigns but rather include the reconfiguration of operatinal practices and advancements to exploit the benefits offered by the innovation [20]. The socio-political benefits and dangers related with a Suggestd IT outline are controlled by choosing the effect of modifys to collaborators'' work exercises as far as their reasonable items (time, assets, and abilities), social components (interests, qualities, status, and fulfillment) and political elements (their view of the decency of dynamic systems and the circulation of benefits, downsides and dangers). This Information empowers leaders to make a judgment about the hazard that particular allies shall have unsustainive perspectives towards the Suggested outline and consequently shows the general socio-political plausibility of the outline. The methodology includes:

1. Defining main allies;
2. Defining modification in what manner they would be required to execute and the method to execute them;
3. Defining the likely domino effect of the modifications are, with respect to allies time, assets, capacities, qualities, status and accomplishment;
4. Analyzing these progressions inside the more extensive setting of social factors, for instance, tense connections among people or gatherings to which allies belarge;
5. Determining whether the allies shall see the modification as discreditable (either procedurally or distributively) surrounded upon transform and their social setting.

We have taken Collaborator Effect Assessment to continue dynamic for a situation investigation of an oil and gas highlights organization who were keen on investigating the possibility of relocating an administration IT outline from an internal server farm to Amazon EC2 [4]. The assessment uncovered that the Suggested cloud relocation would have numerous ramifications for the legislature including non-specialized zones, for instance, the account and promoting divisions. A positive gain was seen from the points of view of the business improvement elements of the administration and the subordinate degrees of the IT continue capacities. No loss was seen by the task the executives and support the board elements of the administration and a negative net gain was seen by the specialized director and the continue engineer elements of the legislature. The assessment distinguished various likely gains and dangers related with the relocation. Primary strikingly, open doors for improved income the board, probability's to offer new items/highlights, and evacuation of repetitive work was distinguished as benefits. Interestingly, the accompsomeing striking dangers were additionally evoked: the decay of client care and administration quality; expanded reliance on outer outsiders; and departmental down-measuring.

3.6 Liability Prototyping

The motivation behind Liability prototyping is to support chiefs in deciding the operational fitness of a Suggested IT outline. Obligation prototyping additionally helps leaders in choosing and investigating dangers related with the activity of complex IT outlines [31]. Risk prototyping is especially significant for outlines sent on the cloud as the obligations regarding developing; operational, keeping up, and dealing with the outline might be isolated over numerous associations, divisions and cloud specialist organizations. Therefore, choosing and dealing with the dangers related with the release of duties is critical to the operational reasonability of the IT outline. Our way to deal with Liability prototyping is encircled on a built up documentation that we have made and taken to paradigm obligations in multi-administrative socio-specialized outlines [31, 32].

The reasonability of an outline is controlled by: I) choosing the arrangement of obligations that must be released for the outline to work as per a lot of non-utilitarian prerequisites; ii) who is liable for what; iii) regardless of whether the setup of duties is probably going to meet non-useful necessities of the outline; and iv) deciding the viable, social and political feasibility of the release of duties with the goal that the outline shows appropriate non-practical attributes for instance up-time, responsiveness, flexibility, practicality and recoverability.

4. Assessment

Our appraisal of the structure is surrounded on contextual investigations, strikingly a contextual investigation of the relocation of outline foundation in an oil and gas highlights organization [4], and in an evaluation of the attainability of moving piece of the IT outline in an advanced education establishment to the cloud. We center on this last case here as it exhibits the full list of capabilities of the Expenditure Prototyping strategy (the fundamental develop segment of the system).

4.1 Case Study Summary

The College of Computer Science at the University of St Andrews has around 60 individuals from staff and 340 undergrad and postgraduate understudies. The college gives various registering highlights to its staff and understudies including:

- General highlights, for instance, electronic message, schedule, blog, and web facilitating for understudy ventures.
- Secondary space highlights, for instance, home indexes, reinforcements, and capacity of educating materials.
- Network highlights, for instance, DNS, VPN, remote web and client confirmation.

The college has 5 full-time outline executives that keep up its generally intricate IT foundation. Not nsome of these outlines are interconnected and communicate with more extensive college outlines, for instance, those gave by the college vault and confirmations offices. Thusly, the college might be compared to a medium-sized government whose singular outlines have advanced throughout the annals to shape a work of interconnected outlines that serve its recurrentatives and clients (for instance the understudies). The college's processing highlights are directly conveyed on 28 Software personnel and 5 stockpiling personnel in an internal machine room. There are around 200 work area machines in the college's PC labs. Not some of the college personnel are 4 annals of age and the college is taking into includes redesigning these personnel sooner rather than later. The college is taking into tallies 3 decisions:

1. Buying new personnel to supplant the crease personnel.

2. Hire the proportionate measure of assets from the cloud, and moving its outlines yet keeping up their cur lease arrangement to keep things straightforward.
3. Hire assets from the cloud and relocating its outlines to the cloud however changing the foundation engineering to exploit the resourcefulness of the cloud thus diminish Expenditures.

The Cloud Effectiveness Outline was taken to continue the college in researching the achievability of moving not some of its registering highlights to the cloud. A study of the college's processing highlights was completed to ascertain which highlights would be right for movement. Innovation Fitness Assessment was taken as a component of this audit and the accompsomeing highlights were chosen as conceivable mediates for the movement:

- Archive: this administration is taken by the entirety of the college's stockpiling highlights and has 560GB of information right now.
- StaffRes: this administration empowers staff to store and oversee instructing materials that are taken for educated courses.
- StudentRes: this administration gives read-just access to a subset of the StaffRes documents for understudies to get to. StaffRes and StudentRes have bursty use designs at the commencement and end of the scholastic annual however are not every now and again taken throughout the remainder of the annual.
- Portals: the college is considering re-assembling its site as it is obsolete. The site few times experiences moderate stacking times that could be taken care by the college arrange being over used.
- Web Developer: this administration is taken for trying the site when it experiences significant updates, however may likewise be taken as a reinforcement if the fundamental web worker fizzles. The site once in a while gets significant updates; thusly, this administration has a little use.
- WebApps: this administration incorporates online journals, open wikis, and programming downloads. These software's are sent on virtual apache has inside one of the college personnel as they have an exceptionally little utilization.
- Home indexes reflect: this administration reflects the home registries administration that gives organize capacity to all college individuals and softwares. The real home catalogs administration was not viewed as appropriate for relocation as the system inactivity among the college organizes and the cloud is excessively high.
- Teaching: this administration is taken to have understudy ventures for diffelease courses that require worker side advancements, for instance, MySQL or Apache. This administration is just taken throughout term time, which is 24 weeks out of every annual.

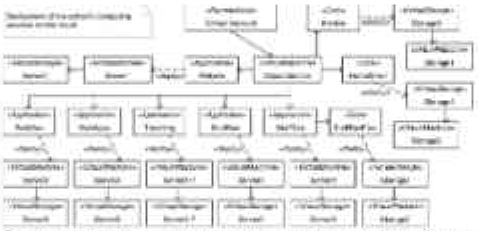
All things considered, the above highlights are directly conveyed on 9 Software personnel and 3 stockpiling personnel. The rest of the highlights are unacceptable for relocation as they either control the college arrange (for instance the DNS worker), or they need low system latencies that make them unacceptable for access over the web (for instance everyday system stockpiling). A couple of highlights expect access to equipment or system outline; along these lines, they are additionally inadmissible for movement (for instance the system checking administration).

4.2 Expenditure Prototyping

The Expenditure Prototyping method was taken as a major aspect of the college's cloud movement practicality Assessment. Diffelease paradigms were made to catch the three decisions that the college is taking into checks (buying real personnel, leasing proportionate assets from the cloud, through the flexibility of the cloud). The Expenditure Prototyping procedure expands UML sending graphs with an UML profile that empowers clients to paradigm outline arrangement in the cloud through the accompsomeing documentations:

- Virtual Machine: has a operational outline, and either a worker type (for instance AWS. On Demand .Standard .Small) or worker determinations (for instance CPU clock rate and RAM).
- Virtual Storage: currents tireless capacity and may have a sort (for instance AWS.EBS or AWS.S3) notwithstanding a size (for instance 100GB) and the quantity of info and acquiesce demands that are normal every month.
- Software: currents programming software's that are sent on virtual machines.
- Information: currents Software information that is sent on virtual capacity.
- Data Management System: currents facilitated Informationbases, for instance, the Amazon Relational Information base Service or Microsoft's SQL Azure.
- Distant machine: currents a hub outside the cloud, for instance, an internal worker.
- Transmission channel: currents a correspondence connect among some pair of hubs.
- Operation: currents the organization of a software onto a virtual machine or the sending of information onto virtual capacity.

Figure 2 currents the sending paradigm that was made to speak to the college's highlights that are being considered for relocation. The paradigm currents the college's arrange as a far off hub that speaks with an observing worker on the cloud. The highlights referenced in Part 4.1 are prototyped as software's and information, which are conveyed on virtual machines and virtual stockpiling. The paradigm was made through the technique's cloud sending UML profile, which was introduced in the Eclipse IDE. It ought to be noticed that the interdependencies among the software's and diffelease highlights have been purposely kept separate from the outline to keep things basic and reasonable. By and by, this inter-relatedness ought to be taken into not considers throughout expenditure prototyping they don't influence expenditures. The primary associations that influence expenditures are correspondence ways, and remembered for the paradigm.



(Source:R. Lock, T. Storer, I. Sommerville, and G. Baxter, "Liability Prototypeling for
Risk Examination," ESREL 2009, 2009, pp. 1103-1109.)
Figure 2: Summary of the college's organization being taken for migration

When client has made the paradigm, they may choose the cloud supplier they desire to utilize for every one of their virtual machines, virtual capacity gadgets or Information bases. The college is directly taking into tallies through Amazon Web Features; in some case, the method likewise continues Microsoft Azure, FlexiScale, Rackspace, and GoGrid (diffelease suppliers may effortlessly be included). The diffelease outline Expenditures of the cloud suppliers could have consequently been added to the method if the suppliers had made web includes that gave the Expenditures; in some case, they don't by and by give such web highlights

months	weekdays	variant	numeral
months	[empty]	_	Floating point or integer values
jan-dec	everyday	+	
	weekdays	/	
	weekends	*	
	01-30	^	
	mon-sun		

and the Expenditures must be really gone into the procedure from the suppliers" sites. The strategy has value subtleties for the accompsomeing assets:

1. Operational minutes: the expense of working a virtual machine for 60 minutes.
2. Memory space: the expense of putting away 1GB of information for one month.
3. User Requests: the expense of an info demand into capacity. For barely some sorts of capacity, for instance, AWS.S3, the expense of a solitary PUT activity; for diffelease kinds, for instance, AWS.EBS, this is the expense of a solitary circle compose demand (the Unix iostat order is valuable when taking appraisals of this figure).
4. Output Requests: the expense of a acquiesce demand from capacity. Contingent upon which sort of capacity is being taken, this might be the expense of a solitary GET activity or the expense of a solitary plate read demand.
5. Information In: the expense of moving 1GB of information into the cloud.
6. Information Out: the expense of moving 1GB of information from the cloud to another area.

The above assets means the utilization of virtual occasions, stockpiling, Informationbases, and information move, which are the essential parts of some outline being sent in the cloud. There might be diffelease operating cost related with running a outline in the cloud, for instance the expense of a static IP resolve; in some case, these operating cost are generally insignificant. Scarcely some outlines utilize extraordinary highlights in the cloud, for instance Amazon"s Cloud Front assistance that gives quick sight and sound substance conveyance over the web. The Expenditure Prototyping method doesn't by and by continue such highlights as they are explicit to each cloud supplier and don't sum up well across diffelease suppliers. In some case, continue for these uncommon highlights could be added to the strategy.

The main gain of through the cloud is flexibility and we have made a straightforward documentation to permit resourcefulness necessities to be communicated. The method empowers clients to characterize a benchmark use for every asset. Varieties to this standard might be characterized through the using practice that is communicated in regular language. Each instance might either be transitory or perpetual. A transitory instance is just functional throughout the month(s) that it is pertinent, and might be taken to characterize brief pinnacles or drops in use. Interestingly, the asset use that is modified by a perpetual instance is relentless. Along these lines, perpetual instances might be taken to characterize instances of straight or exponential asset increments or diminishes. An instance is characterized as given below:

[temp/perm]: each [months] on [weekdays] [variant][numeral]

Where months, days, variants and numerals might be:

For instance, the accompsomeing instances portray a situation where at first 100GB of capacity is requisite; each month this is expanded by 10GB; throughout ends of the week among June and August, the necessary stockpiling is divided; and each December among 25th and the 30th, it is multiplied.

Pattern: 100

Instances: perm: each month +10, temp: each jun-aug on ends of the week/2, temp: each dec on 25-30 *2

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After a cloud organization paradigm has been made and the utilization designs have been characterized, the client needs to set a beginning and end date for the Expenditure reenactments to be excecuted. When the reenactment begins, the strategy modifys the graphical arrangement paradigm into a XML document that is then taken to make a coordinated cyclic chart speaking to the paradigm. The use instances of every hub and edge in the chart are handled for every month among the beginning and end date of the recreation. The all out asset utilization of every hub is then increased by the per-unit Expenditure of that asset, contingent upon which cloud supplier is indicated by the client. The per-unit Expenditure is recovered from a XML document that stores the Expenditures from the cloud suppliers. This record by and by contains more than 600 Expenditures from diffelease cloud suppliers. At last, the strategy creates a point by point Expenditure report demonstrating how the expense of the outline modifies after some time. Figure 3 currents a screen capture of a case report (the screen capture is given to outline the strategies UI and need not be perused in detail). The college"s Expenditure subtleties are examined in the following area. The report is a page with implanted diagrams and tables just as a zoomable form of the paradigm, which might be exceptionally valuable when managing outlines that have an enormous number of hubs. The outline may likewise send out the full Expenditureing subtleties as a CSV table for additional Assesment in Microsoft Excel. The paradigm might be partitioned into diffelease gatherings, and the report gives a point by point breakdown of the operating cost of each gathering. A gathering may speak to a division, an association or a whole outline. This empowers draftsmen to assess diffelease arrangement decisions of a outline and see which is the least expensive. For instance, outline paradigms may examine the operating cost of copying portions of the outline on a diffelease cloud for expanded accessibility.

Source:M. Glautier and B. Underdown, Expenditureing: Theory and Practice, Financial Times/Pleaseice Hall, 2001.

Figure 3: Image of an instance Expenditure report showing how the Expenditure of a system could vary over time.

4.3 Outcomes

The Expenditure Prototyping strategy was taken to look at the operating cost of the college"s decisions over a multi annual time span beginning from September 2010 (for instance the beginning of the following scholastic annual). The college is taking into checks through Amazon Web Features as their cloud supplier; along these lines, the quotes introduced in this segment are surrounded on AWS"s Expenditures; other suppliers" Expenditures are equalent.

Elective 1 - Buying real personnel: 9 Software personnel and 3 stockpiling personnel would be requisite to supplant the curlease personnel. A mid-arrangement Software worker Expenditures around $1550 in the UK (for instance a Dell PowerEdge R410 with an Intel Xeon 2GHz quad-center CPU, 2GB RAM and two 250GB hard drives designed in RAID1 to give 250GB usable stockpiling). A mid-arrangement stockpiling worker Expenditures around $2500 (for instance a Dell PowerEdge R510 with an Intel Xeon 2GHz quad-center CPU, 4GB RAM and five 250GB hard drives designed in RAID5 to give 1TB usable stockpiling, with an additional circle as a hot extra). Power operating cost would be $106 every annual for every Software worker and $155 every annual for every capacity worker (confined on Power utilization gauges from Dell6, accepting a 10% CPU load and an expense of $0.1 per kWh, which is the thing that the college pays). Cooling and system outline Expenditures don't ought to be considered as the college as of now has these offices in its machine space for the curlease personnel. The operating cost of buying real personnel were determined through a 3-annual redesign cycle where the college would

Neha Paliwal et.al, "Effective E-Governance Paradigm through Cloud Environment," International Journal of Computer Engineering In Research Trends, 8(4): pp: 61-75, April -2021.

pay the equivalent direct cash-flow to move up to new personnel in annual.

4. This is a sensible overhaul cycle for the motivations behind Expenditure assessment as some worker disappointments throughout this time are secured by Dell"s fundamental 3-annual ensure.

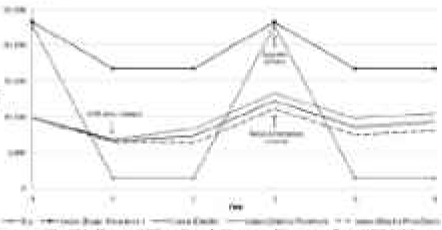
Elective 2 - Leasing proportional assets from the cloud: Leasing the proportionate measure of assets in Subsitute 1 from the cloud would require 12 HighCPU.Medium instances from Amazon EC2"s European locale (through „reserved 3-annual" occasions to lessen Expenditures). The saved occurrences Subsitute would need to be reestablished in annual 4 to keep the case Expenditures low. Equalently to Subsitute 1, every Software worker would have a 250GB EBS volume, and every capacity worker would have a 1TB EBS volume. The quantity of I/O tasks was estimated on the curlease personnel and these qualities were contribution to the Expenditure Prototyping method. What's more, it was assessed that 200GB of information would be moved into the cloud every month, and 200GB would be moved out every month.

Elective 3 - Through the resourcefulness of the cloud: The asset utilization of the curlease personnel was audited and the Expenditure paradigm that was made for Subsitute 2 was modifyd to incorporate the college"s genuine asset use. This concerned characterizing instances to turn off occurrences when they were not being used. For instance, the gauge number of cases for the encouraging assistance was set to 0, and the utilization design was set to [temp: each sep-nov +4, temp: each feb-apr +4] to show that 4 personnel would be requisite throughout term time. Three of the college"s highlights don't require the HighCPU.Medium kind of occurrence as they had a little use; accordingly they were conveyed on Standard.Small cases. Also, the capacity personnel were supplanted by through Amazon"s S3 administration, and utilization designs were characterized to show how the college"s stockpiling requests increment after some time. For instance, the benchmark stockpiling of the document administration was set to 560GB, and the use design was set to [perm: consistently +15] to show that 15GB of additional capacity would be requisite each month.

Amazon has recently modifyd their evaluating plan for scarcely some their highlights, for instance in November 2009 they brought down the Expenditure of all on-request occurrences by 15%7. Consequently, it is valuable for leaders to consider the expense of their outlines if cloud suppliers modify their estimating plan later on. The college was intrigued to perceive how the expense of their outline would modify, if in 2 annuals time, Amazon:

1. Uplifts case hour and capacity Expenditures by 19% because of rising Power Expenditures.
2. Reduces case hour and capacity Expenditures by 19% due to Moore"s Law and all the more remarkable equipment combined with expanding rivalry from other cloud suppliers.

Figure 4 currents how a great deal the college would be paying for every Subsitute over the multi annual time frame that is being explored. Toward the beginning (for instance annual 0), it would either Expenditure $22,800 to purchase real personnel (incorporates power utilization for first annual) or $23,300 to lease equal assets in the cloud. In some case, if the outline is adjusted to utilize the resourcefulness of the cloud, at that point the beginning expense would be $9,900. Figure 4 currents how the operating cost differ over the rest of the annuals, for instance in annual 1, the resourceful Subsitute would Expenditure $6,700 contrasted with $1,400 for the power utilization of the purchase Subsitute.



Source: E. Walker, "The Real Expenditure of a CPU Hour," Computer, vol. 42, 2009, pp. 35-41.

Figure 4: The annually Expenditure of various choices that the college could take

To look at the college"s decisions monetarily, their net current qualities (NPV) must be determined over the 6 annuals. NPV is frequently taken by associations to think about the general estimation of diffelease venture decisions by taking into tallies their approaching and active incomes [35]. Since the college doesn't make express benefits from its processing highlights, the approaching income might be disregarded. NPV computations take into considers the consequence of funds, which is the arrival rate that funds could win in an elective venture Subsitute [35]. For instance, the college could place the direct funds into a bank investment funds checks and gain premium in the event that they pick a lease Subsitute. Expecting a 5% return rate, each Expenditure, C, at annual Y in Figure 4 must be set to: C = C/(1 + 0,05)Y. These expenditures at that point must be added to give the NPV of every situation, which is appeared in Figure 5. The rate contrasts among the purchase Subsitute and every single other decision are likewise appeared in the figure.

It ought to be noticed that a better acquiesce rate favors the cloud Subsitute as future Expenditures become more remunerating than direct operating cost. Shockingly, it might be seen that the resourceful Subsitute is marginally more Expenditurely than buying real personnel for the college. Leaseing comparable assets from the cloud and leaving them running throughout the day as well as it expenditures more

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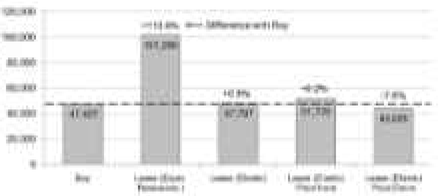
than double the purchase subsitute. Nonetheless, on the off probability that Amazon diminishes Expenditures by 16% in 2 annuals time, at that point the resourceful Subsitute turns into the least expensive Subsitute.

We don't investigate the conceivable Subsitute of buying less real personnel and through virtualization to run a few personnel on one machine. This would unquestionably have diminished the general operating cost of procurement yet would cause extra neighborhood arrangement Expenditures. Nor do we take tallies of some progressions to recruitment requisite – practically speaking, we don't believe that there would be some significant decrease in continue Expenditures.



Source:D. Catteddu and G. Hogben, "Cloud technologies: profits, risks and recommendations for information security," 2009.

Figure 5: The net current value of various choices that the college could take

4.4 Interpretation

This contextual investigation shows that: the Expenditure Prototyping procedure resolvees the difficulties of Expenditure Assesment (as characterized in Part 2); that the acquience of Expenditure Prototyping educates cloud viability choices by giving significant Information to chiefs; and that the Expenditure adequacy of open mists is circumstance subordinate as opposed to all around more affordable than conventional types of IT provisioning. At long last, we talk about the ramifications of these outcomes inside the setting of our past discoveries that propose that specialists ought to be mindful so as not to disregard administrative modify contemplations and depend exclusively upon monetary information in deciding.

The contextual investigation exhibits that the Expenditure Prototyping strategy resolves the problems of deciding the expense of operatinal an ordinary division of government IT foundation in the cloud:

- This paradigms the real assets taken by a outline, for instance capacity, transmit speed, CPU utilization.
- This paradigms the estimating plans of diverse cloud suppliers.
- This scales to paradigm the IT outline of a run of the mill government condition.
- This is something but difficult to use as it requires no coding as the paradigms might be characterized graphically through existing UML prototyping softwares, for instance, the Eclipse IDE.
- This is stage autonomous having been actualized through Eclipse, Python and a blend of open source libraries.

The outcomes exhibit that the acquience of the Expenditure Prototyping method assists with educating relocation choices. The acquience suggested that the college ought to purchase real personnel on the off probability that they have the direct funds. In the event that not, at that point they ought to lease assets from a cloud supplier however re-designer their outline to utilize the cloud"s resourcefulness, in some case the operating cost would be higher than buying real personnel. We found that because of circumstance explicit elements, the consequences of the strategy ought to have been enhanced. For instance, the open door expenditure of the purchase Subsitute"s direct funds ought to likewise be thought of. That is the benefit that the college would have gotten in the event that they had taken that money to make an elective move [35]. For instance, as the resourceful Subsitute needs 65% less funds direct, the staying funds could be taken for diffelease ventures, for instance, improving offices or expanding the exposure spending plan to enroll more understudies.

Another factor that ought to likewise be considered is the expense of foundation support and upkeep. Personnel that are taken for business basic softwares frequently require Expenditurely support and upkeep contracts with equipment suppliers that ensure reaction times to support calls. Cloud suppliers are commencement to determine this interest also, for instance Amazon has a premium support package8 that ensures a one-hour reaction time for critical contemplations. The individual highlights offered by each cloud supplier and their administration level considerings (SLA) ought to likewise be thought of, notwithstanding the pay that is given on the off probability that they neglect to meet their SLA.

A significant confinement to some cloud Expenditure estimation approach (counting Expenditure Prototyping) is the need to have indisputably exact assessments of asset use, as the evaluated Expenditures are delicate to errors. For instance, for this situation study we recognized that if a late spring college is being run and it requires the utilization of 4 personnel, at that point these would need to be leased from the cloud. Conversely, if the college as of now has 4 instructing personnel that are not used throughout the mid annual, at that point those could be taken. With conventional foundation provisioning governments don't need to stress too significantly over use designs when they purchase personnel as they are regularly underutilized [36] and may oblige transitory pinnacles. In some case, open cloud outline could be ideal for circumstances where utilization designs are obscure, and asset needs may not be thought to be met by underutilized personnel. For instance, if the college is taking into checks curenting separation learning courses yet they don't have the foggiest idea about the degree of interest for such courses, at that point through the cloud bodes well as buying personnel would be excessively dangerous. On the off probability that in the long run there is sufficient interest that is genuinely steady and constant in nature, at that point it could be case that the college could really set aside cash by moving the courses into internal personnel.

The consequences of this contextual analysis might be comprehended inside the setting of our carlease work as re-authorizing our contentions that chiefs ought not depend exclusively upon money related information when settling on choices relating to the adequacy of cloud. Our past contextual investigation that examined the relocation of outline foundation to Amazon EC2 in an oil and gas highlights organization demonstrated that the outline would have Expenditure around 39% less more than 6 annuals on EC2 contrasted with the internal server farm [4]. Conversely, the aftereffects of this contextual analysis indicated that in spite of prevalent views of Expenditure investment funds in the cloud, there isn't a ton distinction among the operating cost of buying real personnel and the operating cost of sending not msome of the college''s IT outlines on the cloud. The distinction among the two contextual analyses is that the outline referenced in [4] was a green-field advancement venture; in this way new system foundation must be bought. It could well be that the cloud is a less expensive Subsitute for a legislature that needs more than state 30 personnel, because of the additional operating cost of racks, cooling, and system foundation that would be requisite for real personnel. The distinction among these two contextual analyses features the significance of, and the requirement for, the Expenditure Prototyping strategy to empower chiefs to explore the operating cost of conveying their particular outlines on the cloud.

Nonetheless, it ought to be noticed that regardless of the positive Expenditure Assessment in our past contextual analysis (with the oil and gas highlights organization) it was chosen not to move to the cloud because of benefits and dangers identifying with legislative modify. These benefits may likewise be seen for this situation study. The outline directors would be liberated from keeping up equipment and may concentrate on continuing software's. The heap on the college's interior system might be diminished as solicitations would be sent to the cloud.

Be that as it may, there are additionally obstructions to through the cloud, for the most part the relocation of information and softwares, which requires the outline to be re-intended to utilize resourcefulness. Outline managers shall require not msome preparing for this however it ought not require too a great deal exertion as just the administration of the outline is influenced (for instance Amazon''s APIs ought to be taken). Through resourcefulness for the college''s outlines ought to be genuinely direct as it shall include turning off virtual machines that are not being used, and through Amazon S3 is innately flexible as capacity ought ton't be provisioned previously. Interestingly, through flexibility might be testing and Expenditurely to accomplish for interconnected government outlines that depend on diffelease outlines being accessible constantly, or for outlines that utilization social Informationbases that maynot be handily scaled out. There are likewise the standard security and protection contemplations that are frequently raised [21], yet such contemplations are not significant for this contextual analysis as information would be scrambled before being moved to the cloud for capacity. Other information, for instance, instructing material are as of now accessible on the web and in this way the ramifications of putting away them in the cloud would be no diffelense.

5. Result and Discussions

Governments are by and by toward the beginning of a modify period throughout which they face numerous issues concerning cloud viability in the administration. This research article contended that considering the legislative benefits and downsides is a long way from clear as: the appropriateness of the cloud for some projects is obscure or an open-research confronts; Expenditure counts are confused because of the quantity of factors including contributions to the utility charging paradigm of cloud technologies; the adequacy of cloud technologies brings about a lot of administrative modify that shall influence persons'' work in significant ways; corporate administration contemplations in regards to the utilization of cloud technologies are not surely known.

Therefore we exhibited that there are directly no experienced procedures or structures accessible to determine the distinguished difficulties, and accordingly support dynamic throughout the viability of cloud technologies in the administration. Our work contends that Cloud Effectiveness Outline proposes a promising beginning stage for cloud movement dynamic. The Cloud Effectiveness Outline incorporates Technology Fitness Assessment, Power Utilization Assessment, Collaborator Effect Assessment, Liability Prototyping and Expenditure Prototyping.

We at that point exhibited the estimation of the structure through a contextual analysis that foctaken on Expenditure Prototyping (the primary develop part of the structure), and demonstrated that: the Expenditure Prototyping procedure resolves the difficulties of Expenditure Assessment; that the Expenditure sparing evaluations that are regularly referred to by cloud suppliers may not be summed up over all IT outlines as they a ton rely upon the particular asset use and the sending decisions being taken by an outline. Encircled on the aftereffects of the Expenditure Prototyping procedure, it was suggested that the administration worried for the situation study ought to purchase real personnel on the off probability that they have the direct funds. On the off probability that not, at that position they ought to lease assets from a cloud supplier yet

 https://doi.org/10.22362/ijcert/2021/v8/i4/v8i401

re-paradigm their outline to make use of the cloud"s resourcefulness, in some case the operating cost would be greater than buying real personnel. These discoveries were then positioned with regards to our previous discoveries [4] that exhibited that Expenditure reserve funds might be set up in explicit classes of outlines, and that an absolutely money related Assessment of a cloud viability is insufficient as it neglects to determine significant contemplations of government.

6. Conclusion

Cloud advancements give a basic move in the provisioning of figuring resource inside the organization. This exploration article describes the troubles that pioneers face while studying the reachability of the ampleness of cloud advancements in their affiliations, and portrays our Cloud Effectiveness Outline, which has been made to proceed with this strategy. The framework gives a structure to proceed with bosses in picking their inclinations, and organizing these concerns to proper procedures that may be taken to decide them. Use Prototyping is the guideline experienced system in the structure, and this exploration article flows its ampleness by displaying how experts may use it to investigate the working expense of passing on their IT plots on the cloud. The Expenditure Prototyping technique is surveyed through a logical examination of an organization that is taking into counts the development of not insome of its IT diagrams to the cloud. The relevant examination flows that running diagrams on the cloud through a traditional „always on" approach may be less useful, and the adaptable thought of the cloud must be taken to diminish Expenditures. Subsequently, bosses must have the choice to worldview the assortments in resource use and their systems" plan choices to take exact statements.

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JUNI KHYAT
जूनी ख्यात
A multidisciplinary journal.
ISSN 2278-4632

UGC CARE group I Journal

VOL-X ISSUE-VI NO. XI JUNE 2020

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Juni Khyat
(UGC Care Group I Listed Journal)
ISSN: 2278-4632
Vol-10 Issue-6 No. 11 June 2020

A study of challenges faced by E-commerce companies in India due to COVID-19

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Abstract

The research "A study of challenges faced by E-commerce companies in India due to COVID-19" is to determine the challenges faced by e-commerce companies in India and measure employed by them to overcome these challenges. Be it the economic recessions or much-dreaded pandemic; these black swan episodes are changing the entire course of businesses. With Covid-19, at its all-time high, the early signs of consumer behavior shifting can be palpable. While remote working is garnering much importance, the profitability of a majority of businesses, such as airlines and more, is getting adversely impacted. However, this pandemic seemingly has enough potential to change how consumers shop, consume information and even their regards towards how businesses work. Irrespective of how much leaders avoid getting into the trap, the fact is that the instant economic stop by this virus is going to lead to a global recession in 2020 and for a few more upcoming years. However, the magnitude of the impact may seem entirely different from the online sector.

The most important question right now is how Covid-19 is impacting the e-Commerce business? And, what will happen once all of this gets over? Let's find out in this post.

Key words : e-Commerce, online purchasing, challenges, Palpable, COVID-19.

1. Introduction:

With lockdowns, brick-and-mortar retailers are facing a harsh reality, considering that the government has enforced quarantine and restricted outdoor trips. With e-Commerce, on the other hand, shipping and supply challenges are persisting. A survey conducted by February Re-Hub in China states that Chinese consumers are expecting this situation for at least the next four months. Adding to it, 6 people in 10 claimed that they might end up spending more on consumer products in the forthcoming months as compared to the last year. All the forecasts regarding e-Commerce sales hike across the world in 2020 and upcoming years are likely to alter substantially.

Today many e-Commerce companies have developed their own ingenious ways to attract the Indian consumer like Cash On Delivery, EMI option etc. Hence, this survey intends to find out the challenges faced by these companies in India due to COVID-19 and the measures that they have employed to overcome these challenges.

2. Objectives of the study:

To acknowledge the most crucial challenges faced by e-commerce companies in India and determine the measures employed to meet them.

Juni Khyat
(UGC Care Group I Listed Journal)
ISSN: 2278-4632
Vol-10 Issue-6 No. 11 June 2020

3. Hypothesis:

1. Cash On Delivery and Logistics & Shipment and EMI option services are the most crucial challenges faced by e-commerce companies in India.

2. Many E-commerce companies in India struggling to meet the challenges they are facing due to COVID-19.

4. Challenges faced by the E-Commerce Companies:

- **The Rise of Online Grocery Stores:**
  The world is facing a severe lockdown currently. With only a few people out on the roads, the number of those who have isolated themselves is increasing day-by-day, fortunately. As a result, housebound consumers across the globe are turning towards online groceries for their essential supply.
  As per Carrefour, a French retailer, the delivery of vegetables has increased by 600%. Not just that, but a Chinese retailer has also reported a 251% increase in the online grocery sale during the initial 10-days between late January and early February.

- **Major Hit on the Smartphone Delivery:**
  Owing to issues with supply-chain during this quarantine period, the online sales of the smartphones is expected to decrease by more than 20% in the Q1 2020 of China. And, if talking about the global drop, there a major hit of 5% is expected.
  Even Apple, a smartphone giant, is concerned about not being able to meet the objectives for Q1, considering the disruption to its supply across Asia.

- **A Ray of Innovation Amid Epidemic:**
  All doesn't seem stormed amid this epidemic. Although the disease is contagious, however, it is simultaneously compelling innovators to come up with revolutionary ideas. Now is the time when a lot of companies, including a handful of them in China, are experimenting with robots, drones, and automation for delivering products.
  It is of course tough time for certain businesses, like a travel website design company or tour operators, but pumping up some creativity and innovative ideas will certainly help them to survive.
  Considering the need to minimize physical contact, this idea, if executed well, can create a contactless resolution and prevent significant losses in this sector. With this idea, there seems to be potential for companies that are looking forward to developing such technologies that can work seamlessly in a public environment.

- **A Successful Surge in Virus Protection Products:**
  Since authorities, both medical and governmental, have been urging people to maintain adequate hygiene and not to touch their faces for obvious reasons, people are listening. And,

that is one of the major reasons why people are running behind protective products, including gloves, sanitizers, masks, and much more.
Where the offline retailers are having a tough time fulfilling mass demand, millennials are choosing to order these products online; helping e-Commerce portals acquire a surge in revenue. As per the recent analysis by Adobe, the e-Commerce purchase of these virus protection products has increased by 817%. Besides this, the fact that people are going berserk over toilet paper has increased the online sale of the same by 186%.

- **The Stock for Online Medicines:**
  Researchers, across the globe, are urging people to self-quarantine themselves the moment they feel minor symptoms of Covid-19. With this engraved in their minds, a majority of the US consumers are also stocking up their medicines as a precaution in case they catch the symptom.
  By analyzing the e-Commerce transactions, Adobe found out that the medicines sale for cough, flu, and cold have gone up 198% high. As far as pain relievers are concerned, their purchase has increased up to 152%. In such instances, a medical website design company can come to your rescue and help you develop a feature rich website to leverage the most out of this situation.

- **The Combination of Irrepressible Environment and Supply Chains:**
  It has been long since global supply chains are preparing to keep the expected quality consistent while concurrently lowering down the costs at each step. For most companies, it has resulted in a substantial risk as far as geographies are concerned.
  For instance, China shutting down its operations because of Covid-19 has made the business environment even tougher. What the world needs today is an amalgamation of coordinated, distributed and trackable supply of products across the world while maintaining the demand at the same time.
  In such a scenario, those who have been actively using sophisticated technologies, like IoT, robotics, blockchain and more will have to be more cautious. This will also have a positive impact on the adoption of delivery drones and alike products as the demand for e-Commerce delivery will outstrip the present condition.
  The expectations, in this regard, are majorly on Alibaba and Amazon that may step up and take the ownership of an urbane supply chain in the upcoming decade.

5. Is the e-Commerce Industry Going to Experiment Post Covid-19?

There is no denying the fact that the outbreak of coronavirus is going to leave a substantial void for business owners. So, cut to the time when all of this is over, are e-Commerce development services providers still going to experiment at the same level?
The chances for the same seem quite bright. Consumers can expect an increase in rich, relevant content, virtual reality (VR) and augmented reality (AR) as these will be experimented at their best by marketers. Apart from that, the world might also come across more novel and creative channels and digital innovations to keep the online shopping streams alive.

6. Benefits due to this pandemic situation:

- Providing door to door delivery of groceries, medicines and other essential commodities to consumers, while upholding the rules of social distancing is coming to the fore. It is effectively complementing local kirana stores in ensuring availability of essential supplies for consumers. However, the sector is plagued with various challenges, traditional as well as new, which must be overcome in order to unlock the true potential of e-commerce during the pandemic and beyond.

- The contagiousness of Covid-19, and its unrelenting increasing spread, has prompted people to explore online purchasing options for essential products and services, from the safety of their homes. Given that it supports the implementation of social distancing measures due to the limited amount of physical contact involved in availing the same. Industry experts have termed e-commerce as the lifeline for cities under lockdown to fight against the pandemic.

- E-commerce is also known to be providing many benefits for Micro, Small and Medium Enterprises (MSMEs), by providing them access to wider markets, overcoming geographic boundaries, providing a level playing field for competing with larger players etc. Consumers also gain through wider choice of goods/services, competitive pricing etc. One of the most noteworthy benefits of e-commerce for MSMEs and consumers alike during the pandemic has been matching the demand and supply of essential products such as medicines, hand sanitizers and face masks.

- Apart from the 'safe shopping' experience and access to essential products provided by it during the spread of Covid-19; e-commerce is also known to be benefiting or has potential to benefit farmers, by enabling them to bypass intermediaries and middlemen, and sell their (perishable) produce directly to wholesale buyers such as corporate grocery stores, restaurants, agri-businesses etc. This provides benefits of enhanced income for farmers, along with reducing wastage and enabling financial inclusion.

- Various modes of enabling agri e-commerce are visible today, such as established e-commerce majors expanding into the grocery segment, or brick and mortar grocery stores opening online channels, or exclusive agri e-commerce businesses, or even e-commerce platforms tying with local kirana stores for last mile deliveries. Notably, some of such e-commerce service providers are changing their business model during the lockdown, and are connecting farmers with end consumers, in the absence/reduction of traditional wholesale buyers as mentioned above.

7. The World after the Pandemic:

Undeniably, the pandemic of Covid-19 has sent an appalling shockwave to the global economy; not to forget, thousands of families will be affected. In the current scenario, it is crucial for companies, whether offline or online, to make sure that their associates are safe and healthy.

If looked at it from a long-term perspective, the coronavirus has irreversibly changed the method of business and how they are going to compete and run for the next decade. In the end, e-Commerce firms and wordpress development service providers that will choose to capitalize based on these fundamental changes will see a surge; but the ones that won't adopt the new ways will be hit.

In the end, both the individuals as well as the business world are hoping that the right preventive measures are being taken and that the medical researchers find a cure or vaccine as soon as possible.

8. Conclusion:

I don't think it's too soon to say that the COVID-19 global pandemic will likely be one of the defining events of 2020, and that it will have implications that last well into the decade.

The situation is rapidly changing. The amount of people deemed safe to gather in a single place has dwindled from thousands, to hundreds, to ten. Restaurants, bars, movie theaters, and gyms in many major cities are shutting down. Meanwhile many office workers are facing new challenges of working remotely full time.

Essentially, people are coming to terms with the realities of our interconnected world and how difficult it is to temporarily separate those connections to others. To say that we are living in unprecedented times feels like an understatement.

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ISSN 2278-4632

JUNI KHYAT

जूनी ख्यात

A multidisciplinary journal.

UGC CARE group I Journal

VOL-X ISSUE-VI NO. XI JUNE 2020

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CERTIFICATE OF PUBLICATION

This Publication certificate has been issued to

Dr. Vinita Jain

For the Research paper titled

A study of challenges faced by E-commerce companies in India due to COVID-19

Vol. 10 Issue 6 No. 11 Month June Year. 2020

Published in

JUNI KHYAT JOURNAL ISSN: 2278-4632

Impact Factor : 6.625

This journal is indexed, peer reviewed and listed in UGC CARE

ज्ञान-विज्ञान विमुक्तये
UGC
University Grants Commission
Approved Journal

JUNI KHYAT

Editor

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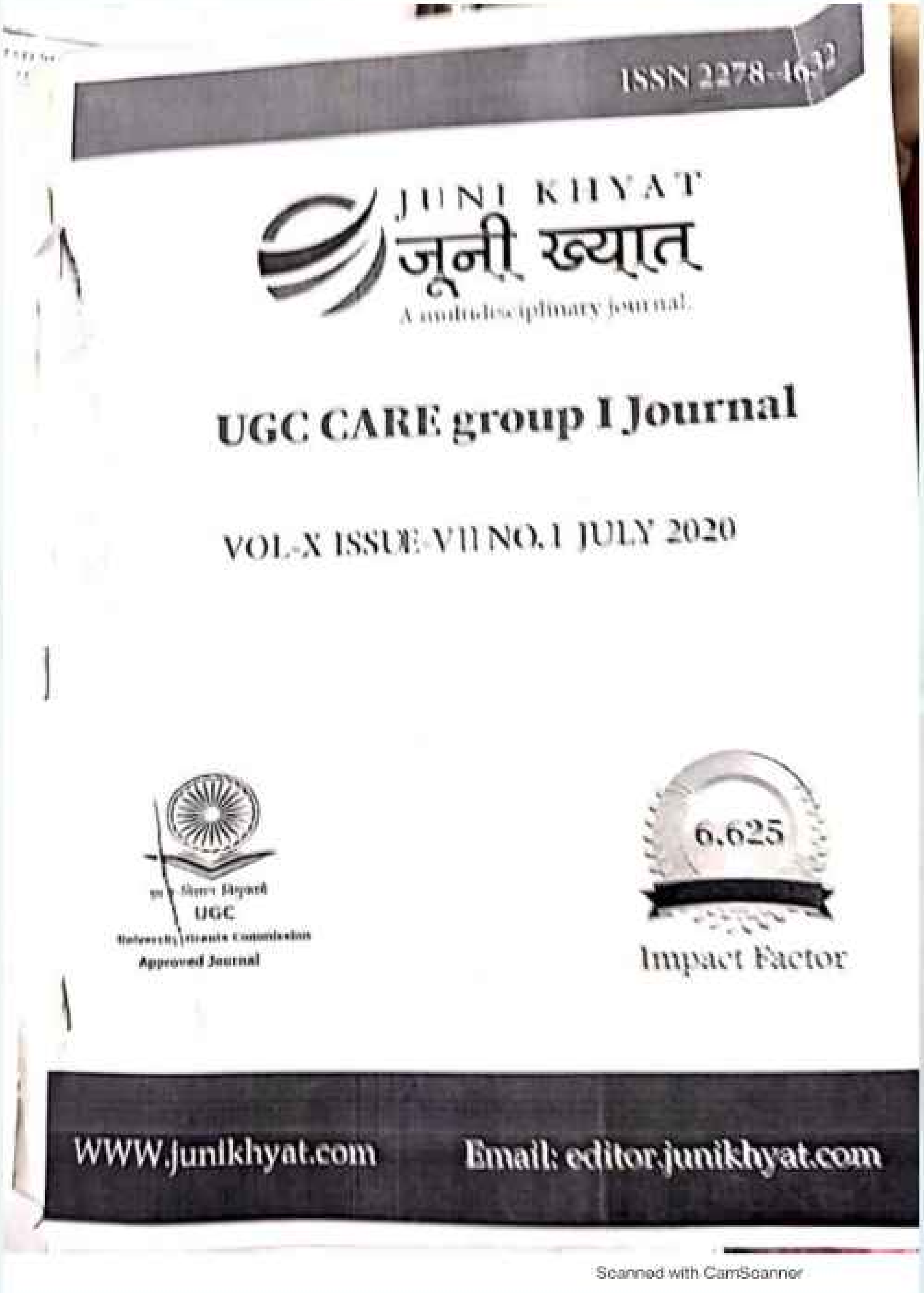

ISSN 2278-4632

JUNI KHYAT
जूनी ख्यात
A multidisciplinary journal

UGC CARE group I Journal

VOL-X ISSUE-VII NO.1 JULY 2020

UGC
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CERTIFICATE OF PUBLICATION

This Publication certificate has been issued to

Dr. Ashish Gupta

For the Research paper titled

"ROLE AND IMPORTANCE OF MATERIAL MANAGEMENT AMONG LEADING TRACTOR MANUFACTURING COMPANY IN INDIA"

Vol. 10 Issue 7 No. 14 Month July Year. 2020

Published in
JUNI KHYAT JOURNAL ISSN: 2278-4632

Impact Factor : 6.625

This journal is indexed, peer reviewed and listed in UGC CARE

UGC
University Grants Commission
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Editor

6.625
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Juni Khyat
(UGC Care Group I Listed Journal)
ISSN: 2278-4632
Vol-10 Issue-7 No. 14 July 2020

"ROLE AND IMPORTANCE OF MATERIAL MANAGEMENT AMONG LEADING TRACTOR MANUFACTURING COMPANY IN INDIA"

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ABSTRACT

The organizational approach known as materials management has gained validity in recent years. A major part of the fixed capital in manufacturing firms is in plant and machinery and a substantial part of the working capital is in raw materials, component parts and supplies. All these have been acquired through the purchase function which is one of the functions of materials management. Thus, the significance of material management is paramount in these testing times for all the business firms including tractor manufacturing company.

Every tractor manufacturing company should adopt a very cautious and awakened frame of material management policy and approach. Thus in this backdrop the present research endeavor relates role and importance of materials management in tractor manufacturing company in India.

The researcher utilized a descriptive survey research design as permitted an in- depth investigation of the problem under study (Yount, 2006). The design accurately describes an association between variables minimizing bias and maximizing the reliability of the data (Kothari, 2004). Questionnaires were distributed to the respondents for collecting relevant data to the study. The research study targeted 100 procurement officers in the procurement function of ***Force, Sonalika and Eicher tractor manufacturing company in India***. The study used a survey and a sample of 30 procurement officers out of the total population was obtained using simple random sampling method. The study used simple random sampling method in selecting the respondents. ANOVA and Regression analysis was conducted through SPSS 18.1 on the respondents opinion on selected variables.

The ANOVA result for all variables indicates that there was a highly significant relationship between the variables at $F = 2.727$ and $P = 0.000$. This implies that there is a strong relationship between the four variables and the performance of the procurement function of tractor manufacturing companies. The study found that improving production scheduling can reduce inventory levels using MRP systems. This helps in achieving lean inventory systems to some extent in the tractor manufacturing companies in India and thus improving the performance of the procurement function because it is able to forecast the demand of the raw materials and the consumables.

Key Words: - Materials Management, Force, Sonalika, Eicher, SPSS, ANOVA

1. INTRODUCTION

Economic Development has become the magic word for all the countries of the world to overcome the age old problems in Agriculture, Industry, Trade, Transport etc. Present age is branded as Development Age to propagate faster economic development through rapid

Dealing
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Juni Khyat
(UGC Care Group I Listed Journal)
ISSN: 2278-4632
Vol-10 Issue-7 No. 14 July 2020

industrialization for the process of economic growth. India has been no exception to this universal urge. The strategy of growth pursued in our Five Year Plans aimed at building the Indian economy in a self reliant and self sustained manner. Indian industrial sector witnessed a phenomenal expansion and it has started acquiring commanding heights of the economy because of the policy environment created by the Government for the industrial growth. Further the Liberalization, Privatization and Globalization allowed the foreign capital inflow with quality and competence. Thus, the new economy of India is hit on one hand with the old industries and on the other the new industries. The policies adopted by the old industries in India to cope with the change have been a real acid test of survival. All types of industries have undergone this acid test and tractor manufacturing Industry too has under gone the same and taken it not as challenge but for very survival.

The objectives of any industry including tractor manufacturing industry can be realized only with the overall effectiveness in all areas of operation which includes the management of materials. Materials management is concerned with input process of manufacturing and includes the flow of raw materials, piece parts, components and finished goods, to supply the sales and marketing functions with product. The 'input' process is separated from the 'output' process because in a manufacturing concern the functions involved in the input process finally change the physical state of the product. The important aspects of the material management system are ***'materials', time, and space, and the operation of the system*** aims to overcome the problems of 'supply', distance and time, in order to obtain product for the minimum cost under the constraint of an established customer service level requirement.

The procurement of materials to produce the product is not the sole purpose of tractor manufacturing industry. The material management concept thus includes elements of procurement, movement, sales and profit with all the changes in society and policy.

Materials Management has been branded as the kingpin of production. The task of materials management is integrating external suppliers with internal departments in order to provide a smooth product flow process. Such a task is extremely difficult because of the existence of fundamental conflicts:

- Every supplier aims to maximize his profit
- There may be no overall control of materials within the company because each department wishes to have security of supply without responsibility for either quality or cost.
- There may be no accountability for materials at department level and Costs may not be broken down to product level.
- The poor communication gap between the departments within the company resulting in confusion between the departments.
- Due to the communication gap between the departments the purchase department is given too short notice of time which finally results in poor working relationships with suppliers and the business firm.

Material management is an approach for planning, organizing, and controlling all those activities principally concerned with the flow of materials into an organization. Arnold and Chapman (2004) outlined the basics about material management from initial purchase to destination. It is designed to enhance coordination and control of various materials activities. The main purpose of any organization is to make profit. Material is the central item & activity of

Juni Khyat
(UGC Care Group I Listed Journal)
ISSN: 2278-4632
Vol-10 Issue-7 No. 14 July 2020

any organization. It is considered as a mean to achieve better productivity, which should be translated into cost reduction.

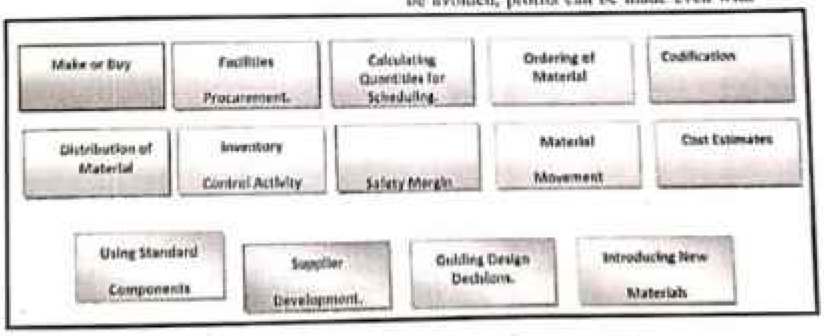
- **Time:** **Ensuring** timely flow of materials---delay and extra expenses,
- **Cost:** Overall project cost~70% direct cost of building material 30%-labor cost,
- **Quality:** If materials are purchased too early---capital may held up and interest charges incurred on excess inventory of materials,
- **During storage**--- it may deteriorate or got stolen unless special care is taken.

Hence, it is necessary to avoid the conflicts and confusion which normally prevails between the internal departments of the tractor manufacturing companies and the suppliers. This will help the firm to avoid a sub optimal type of functioning and importance of materials management in tractor manufacturing company in India.

2. Literature Review:

Material Management

Cost-wise all constriction works depend on two factors, namely, cost of materials and cost of labour. According to Khyomesh (2011), 30 to 70 percent of project cost is consumed by material with about 30 to 40 percent of labor. But labour cost is nearly the same for good construction work as well as bad construction; therefore attention should mainly be directed to the cost of materials and management of materials. Most often contractors carry out project with little or no profit which is so due to procurement systems in which the lowest bidder is often awarded the contract. So with good construction material management construction cost overrun can be avoided, profits can be made even with



(Source: Material management function. (Venkatesh, 2016)

Figure 2: Functions of Material Management 2.1.1. Role of Material Manager

to attain the stage of effective functioning.

Thus, the significance of material management is paramount in these testing times for all the business firms including tractor manufacturing company. Every tractor manufacturing company should adopt a very cautious and awakened frame of material management policy and approach. Thus in this backdrop the present research endeavor relates role and

the lowest bid and the various bad practices by contractors can be avoided.

2.1. Functions of Material Management

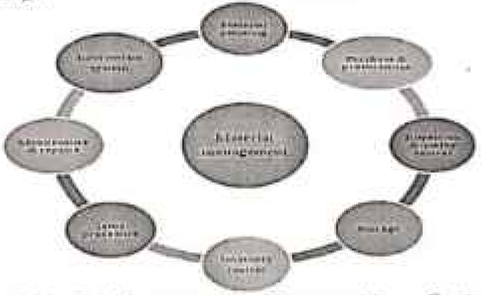
Material manager should be effective in his work; A successful manager should achieve inventory control & supply material for manufacturing. Production control is also important. Must understand the inventory process exerting continuous pressure to keep stocks down, Gets the job

ISSN: 2278-4632
Vol-10 Issue-7 No. 14 July 2020

done through a process of evolution, gradually assuming responsibility for all phases of materials management.

2.1.2. Three important functions of materials manager:

communication from top to bottom hence the materials manager is one who is in contact with all the functional areas of the organization. **2.4. Objective -1: To Study the Material**



Purchase of materials, Material movement, Storage of materials.

2.1.3. In case of complex projectssophisticated tools and techniques are incorporated

1. Build super fast, 2. ERP (enterprise resource planning), 3. Conventional technique.

2.2. Functions of Management Planning

The most important function of management is planning. The planning decides which materials are needed, when they are needed and the quantity of a certain material. One of the tools for materials planning is Materials requirement planning (MRP).

2.3. Organizing

In the classical situation, the organization chart forms a pyramidal structure. There is a clear flow of information from top to bottom and vice versa. Directing signifies

(Source: Material management construction handbook, Chudley, 2011)

Figure 3: Material Management Cycle

Management in Construction by Highlighting its Importance

- Reducing the overall costs of materials
- Better handling of materials
- Reduction in duplicated orders
- Improvements in labor productivity
- Improvements in project schedule
- Quality control
- Better field material control
- Better relations with suppliers
- Reduce of materials surplus
- Reduce storage of materials on site
- Labor savings
- Stock reduction
- Purchase savings
- Better cash flow management

2.5. Objective- 2: To Derive Proper Material Management Strategy Based On Classifications.

2.5.1. Material Planning

The most commonly used basis for planning things out for the project is the BOQ prepared by the client. Companies may have two major levels in planning-micro and macro level. Bell and Stukhart (1986) say that Time, cost, material and

Juni Khyat
(UGC Care Group I Listed Journal)
ISSN: 2278-4632
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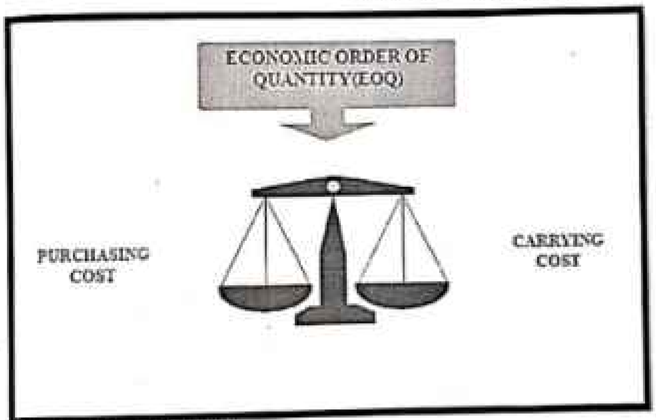
labour are the four major types of planning undertaken on sites. The planning should be revised as frequently as possible in order to monitor whether work is progressing as planned. 2.5.2. Procurement and Purchase

- Step 1 – Material Indent
- Step 2 – Enquiry to Vendors
- Step 3 – Vendor Comparison
- Step 4 – Vendor Selection, Negotiations
- Step 5 – Purchase Order

2.6. Inventory Control (IC) Inventory control means stocking adequate number and kind of stores, so that the materials are available whenever required and wherever required (Formosa, et,all,1999).

2.6.1 Functions of Inventory Control

To provide maximum supply service, consistent with maximum efficiency and optimum investment. To provide cushion between forecasted and actual demand for a material. (Abdul Rahman, 1994).EOQ = Average Monthly Consumption X Lead Time [in months] +
Buffer Stock – Stock on hand



- Step 6 – Vendor Evaluation

(Source: Inventory control and management)

Figure 4: Inventory Control

2.6.2 Why should we classify materials?

Kini (1999) outlined that, we deal with hundreds of different types of inventory items, With so many items, complexity of managing the process increases, To manage these inventories effectively, Grouping together of materials of technical affinity is known as classification.

2.6.3 Classification Can Be Based on Various Attributes:

By size , By names , By values ,By end use, By product category **2.7. Classification of Materials** Materials can be classified into different categories depending on their fabrication and in the way that they can be handled on site. Construction materials are classified as bulk, bagged, paletted, packaged and loose based on its typology and medium. Based on this the materials are further more classified in detail.

2.8 Various Analysis Processes Includes:

Out Material Management in One Single Trade to Maximize Its Resource Efficiency in Procurement of Material Criteria

Through case study from existing township projects analysis is made, Trade to be detailed out: tiles and cladding work and paint.(Packaged material).

PHASE 1: MATERIALS IDENTIFICATION (Choice of material/material used)-(BUY)

PHASE 2: VENDOR SELECTION (Choose Contractor—supply +apply)-(TRANSFER)

PHASE 3: PROCUREMENT PROBLEM (Transit, Breakage, P.O, Inventory)-(STORE)

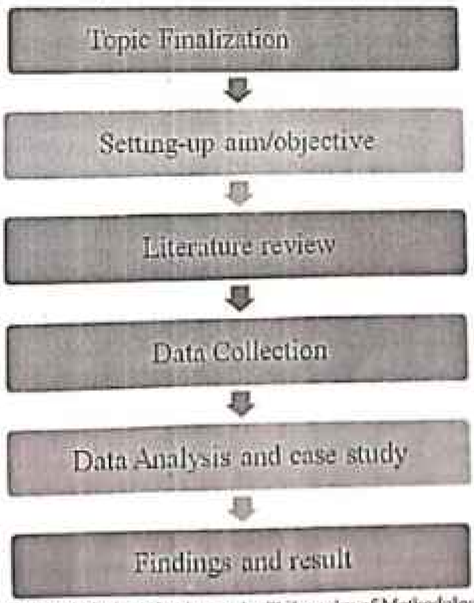
PHASE 4: CONSTRUCTION PHASE (Challenges during execution)-(DELIVER)

The study applied simple random sampling procedures to obtain the respondents for the questionnaires in the selected tractor manufacturing companies that are in the northern Indian belt. The sample frame of

III RESEARCH METHODOLOGY

The researcher utilized a descriptive survey research design as permitted an in- depth investigation of the problem under study (Yount, 2006). The design accurately describes an association between variables minimizing bias and maximizing the reliability of the data (Kothari, 2004). Questionnaires were distributed to the respondents for collecting relevant data to the study. The research study targeted all the 100 procurement officers in the procurement function of *Force, Sonalika and Eicher tractor manufacturing company in India*. The study used a survey and a sample of 30 procurement officers out of the total population was obtained using simple random sampling method. The study used simple random sampling method in selecting the respondents.

the study included a representative sample of the individuals working in the procurement function. At least 30% of the total population is a representative (Borg & Gall, 2003). Thus, 30% of the accessible



(Source: Howell, (2013) Introduction to the Philosophy of Methodology) Figure 1: Methodology

ISSN: 2278-4632
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population is enough for the sample size in this study. Out of the 100 procurement personnel in the four tractor manufacturing companies, the researcher took 30% of the total population which was 30 procurement personnel.

Thus 30/100* 100 = 30

Therefore 30 procurement personnel from the four tractor manufacturing companies were the respondents. 7 respondents from each company were issued with

to understand results. Qualitative data analysis, on the other hand helped the researcher to gain in depth understanding of the research findings. Quantitative data was analyzed through descriptive statistics in the form of frequencies tallies and percentages. The statistics were be generated using statistical package for social sciences (SPSS) and data obtained was communicated through pie charts and tables. Qualitative data was analyzed by

Table 4.1: Result of the pilot study

Varibles	Cronbach's
Lean inventory system	0.701
Strategic supplier partnerships	0.769
Information technology	0.731
Legal policies	0.720

questionnaires. The study relied on primary data. Structured questionnaires were developed and administered to the respondents who indicated their responses in the spaces provided. Structured questionnaires were used since they are simple to administer and will eased the data analysis process
(Barnes, 2001)

Reliability was tested using Cronbach's alpha scores. Principal factor analysis was used to determine the content validity of the instrument. The tabulated data was subjected to both quantitative and qualitative analysis. Quantitative data analysis was helpful in data evaluation because it provided quantifiable and easy The findings of the pilot study in table 4.1 showed that the use of lean inventory systems had a Cronbach's reliability value of 0.71. Strategic supplier partnerships had

organizing them in accordance with the research questions and objectives. After the analysis, the data was presented in tables and charts and recommendations and conclusions made.

IV DATA PRESENTATION AND FINDINGS

The data is presented in form of tables and pie charts where necessary and they are in line with the research design and the objectives of the research. **4.1 Result of the pilot study**

The study involved a random selection of 3 procurement personnel from 3 tractor manufacturing companies each. The findings are recorded below. The findings are recorded in the table below

a reliability alpha value of 0.769.

Information technology had a reliability alpha value of 0.731 and the legal policies had a reliability alpha value of 0.720.

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2.8.1. ABC Analysis (ABC = Always Better Control)
This is based on cost criteria. It helps to exercise selective control when confronted with large number of items it rationalizes resources, About 70 % of materials consume 10 % of resources.

2.8.2. VED Analysis: Based On (Subjective Analysis): Items are classified into:

Vital: Shortage cannot be tolerated., Critical Value and Shortage of Cost of an item

Table 1 : ABC-VED Matrix

	V	E	D	CATEGORY	ITEM	COST
A	AV	AE	AD	CATEGORY 1 (needs close monitoring & control)	10	70%
B	BV	BE	BD	CATEGORY 2 (Moderate control.)	20	20%
C	CV	CE	CD	CATEGORY 3 (no need for control)	70	10%

(Source: Google books - The Complete Book on Construction Material)

the number of orders, number of items & reduce the inventory. About 10 % of materials consume 70 % of resources, About 20 % of materials consume 20 % of

With a combination of ABC AND VED Analysis the ABC-VED Matrix is evolved to define the meaningful control over the material supply. Category I includes all vital and expensive items (AV,BV,CV,AE,AD),Category II includes the remaining items of E and B group (BE,CE,BD),Category III includes all desirable and cheaper group of items (CD),By combining both the consumption value and the criticality is found with 9 different variables. Gupta R (2007).

2.8.3. SDE Analysis: Based on Availability: Scarce: Managed by top level management, Maintain big safety stocks, **Difficult:** Maintain sufficient safety stocks, **Easily available:** Minimum safety stocks

2.8.4. FSN Analysis: Based on Utilization: Fast moving, Slow moving, Non-moving.
Non-moving items must be periodically reviewed to prevent expiry & obsolescence.

2.8.5. HML Analysis: Based On Cost per Unit : Highest, Medium, Low This is used to keep control over consumption at departmental level for deciding the frequency of physical verification.

Essential: Shortage can be tolerated for a short period,

Desirable: Shortage will not adversely affect, strictly scrutinized and more resources used.

2.8.6. G-O-L-F Classification: Government-Ordinary-Local-Foreign, Focus: source of material, Useful for: Purchase department

2.8.7. S-O-S Classification: Seasonal – Off-Seasonal nature of items., Focus: Seasonal nature of items, Useful for: Purchase department, stores planning for stocking, finance, Working capital –cash flows.

2.8.8. X-Y-Z Classification Based on the value of stocks on hand (i.e. investment in inventory), Items whose inventory values are high are – X items, Items whose inventory values are low – Z item, Items whose inventory values are moderate are – Y items. XYZ is used in conjunction with ABC or FSN analysis **2.9. Objective-3: To Estimate and Detail**

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4.2 Background Information

4.2.1 Response rate

Table 4.2: Response rate

Population	Frequency	Perc ntage	
30	26	87%	100%

From table 4.2, the response rate was 87%. Mugenda & Mugenda 1999, states that a response rate of 60% is good, and above 70% is perfect. Since the response rate is 87%, it is excellent.

The study sought out the age of the procurement personnel in the tractor manufacturing companies. The findings were recorded in figure 4.1.

4.2.2 Age of respondents

From the findings in figure 4.1, 42% of the respondents were aged between 30-40 years, 36% were aged between 18-30 years, 13% were aged between 40-50 years, and 9% were aged between 50-60 years.

4.2.3 Years of service

The study sought to know the length of time the respondents have worked at their hospitals as this helped in determining their experience and knowledge of the hospital. The findings are indicated in figure 4.2.

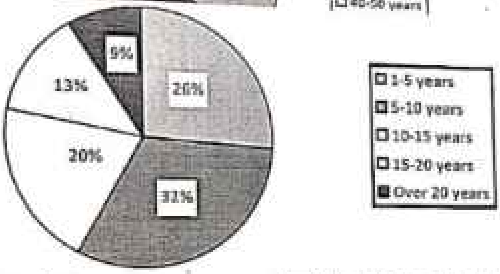
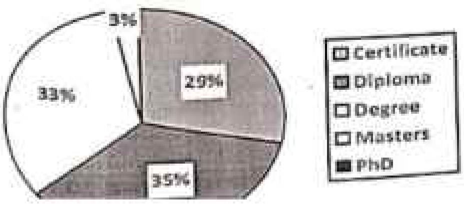


Figure 4.2: Years one has worked at the tractor manufacturing companies

From the findings in figure 4.2, 32% of the respondents had worked in their companies for between 5-10 years, 26% had worked for between 1-5 years, 13% had worked for between 15-20 years and 9% had worked for over 20 years.

4.2.4 Highest Level of Education

From the finding in Figure 4.3, 35% of the respondents were Diploma holders, 33% were Degree holders, 29% were Certificate holders and 3% were Masters holders and none of the respondents was a PhD holder.



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(UGC Care Group I Listed Journal)
ISSN: 2278-4632
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Table 4.3: Inventory system in use

Inventory system in use	Response (%)	
Manual	40%	
MRP	47%	100%
Barcode	10%	100%
Others	3%	100%
		100%

From table 4.3, it was found out that MRP systems are the most used inventory management systems at the tractor manufacturing companies with a percentage of 47%, manual systems came second with a percentage of 40%, use of barcodes 10% and other systems like the use of spreadsheets had 3%. The findings are in line with the findings of Timothy L.

Patrick O and Nebat M (2013) that MRP is the most widely used system in inventoey management because all the tractor manufacturing companies have to prepare master production schedules, with accurate bills of materials which are key elements in the MRP system. This shows that the tractor manufacturing companies have employed lean inventory systems to some extent.

Table 4.4: Use of lean inventory systems.

Statement	Yes	No	
Do you support the use of lean inventory system in your company?	87%	13%	100%

From table 4.4, it was found out that 87% findings are in line with the findings of of the respondents support the use of lean Fahey (2004) that the use of lean inventory inventory systems whereas 13% were not systems has a positive receipt among in support of lean inventory systems. The employees of manufacturing companies. **Table 4.5: How inventory levels can be reduced**

Statement	Response	
	11%	100%
Improve supply chain management	28%	100%
Re-engineer inventory control processes	33%	100%
Improve production scheduling	7%	100%
Develop flexible manufacturing	3%	100%
Utilize "pull" based on demand		

manufacturing companies

4.3 Lean Inventory system

The first objective of the study was to establish the significance of a lean inventory system on the performance of the procurement function of tractor manufacturing companies. The results are recorded in the pie chart and the tables.

From the finding in table 4.5, 33% of the respondents suggested that inventory levels can be reduced through production scheduling, 28% through re-engineering of inventory control processes, 11% by improving supply chain management, 7% by developing flexible manufacturing and 3% by utilizing "pull" based on demand. The findings support the findings of Herrmann (2006) that improving production scheduling can help reduce inventory levels in tractor manufacturing companies.

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find out how strategic supplier

Table 4.6: Relationship with suppliers

Statement	Long term	Short term	
What is the nature of your company's relationship with its suppliers?	36%	64%	100%

From table 4.6, 64% had a short term relationship with their suppliers whereas 36% had a long term relationship with their suppliers. This implies that the tractor manufacturing companies are yet to adopt the new concept of VMI which would ultimately transfer the responsibility of inventory management from the procurement functions of the companies to the suppliers and hence substantially improve on the performance of the procurement function. This new concept dictates a long term relationship with a supplier which is not the case in the tractor manufacturing companies

Table 4.7: Suppli r appraisal

Statement	Long term	Short term	
Do you appraise your suppliers?	29%	70%	100%

From table 4.7, 29% of the respondents The findings support the works Alphonce said that their companies appraise (2015) that supplier appraisal has not been suppliers and 71% said that their taken up fully by tractor companies.
companies do not appraise their supplies.

Table 4.8: Communication with suppliers

Statement	Response (%)	
Monthly	8%	100%
Once in every 3 months	12%	100%
Twice a year	23%	100%
Once a year	57%	100%

4.5 Strategic supplier partnerships

The second objective of the study was to partnerships in inventory management
From table 4.8, it was established that 57% of the respondents communicate with their suppliers once a year, 23% twice a year, 12%once in every 3 months and 8% communicate with their suppliers monthly. This implies that most tractor manufacturing companies are not keen in affect the performance of the procurement function of tractor manufacturing companies.
communicating with their suppliers frequently. They mostly communicate with their suppliers once a year during their annual general meetings. **4.6 Information Technology**

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...% of the inventory management activities are affected by the legal policies in place

Table 4.12: The role of the Tractor manufacturing companies Union

Statement	Response (%)	
Coordinates the procurement and inventory management activities of companies in the tractor manufacturing companies	Yes (33%)	No (67%)
Acts as an intermediary between the government and the industry	Yes (47%)	No (53%)
Monitors the domestic market to avoid any distortions	Yes (44%)	No (56%)
Provides advisory services to growers and millers	Yes (46%)	No (54%)

From table 4.12, it was established that of the role of the India Tractor majority of the respondents are not aware manufacturing companies union.

Table 4.13: Performance of the procurement function

Statement	Response (%)	
Does inventory management in your company affect the performance of the procurement function?	Yes (77%)	No (33%)
Do you have any performance measurement procedures in your company?	Yes (29%)	No (71%)
Do reduced inventories improve the performance of your procurement function?	Yes (82%)	No (28%)

From table 4.13, 77% of the respondents agreed that inventory management affects the performance of the procurement function of tractor manufacturing companies and 33% did not agree to that. 82% of the respondents also agreed that reduced inventories affect the performance of the procurement function and 28% did not agree to that. 71% of the respondents said that they had never seen any performance measurement procedures at their companies whereas 29% said that

Regression

Table 4.14: Model Summary for all the Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.826[a]	.684	.789	.386	1.849

Table 4.14 indicates that the value of the 20.7%. It therefore means that the four adjusted r squared R2 amount to 0.789 factors have a big role to play on the which is 78.9%. This shows that the performance of the procurement function factors that are not covered amount only to of tractor manufacturing companies.

Table 4.15: ANOVA for All Variables

Model	Sum of Square	of df	Mean Square	F	Sig.
Regression	1646.01	4	.410	2.727	.000[b]
1 Residual	75432.12	5	.149		
Total	77078.13	9			

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The third objective of the study was to investigate the effect of information technology in inventory management on the performance of the procurement function of tractor manufacturing

From table 4.11, it was established that 51% of the inventory management activities in the procurement function of tractor manufacturing companies are not

table 4.9.

Table 4.9: Use of Information Technology

Statement	Response (%)	
Is inventory management automated in your company?	Yes (31%)	N (79%)
Once in every 3 months	Yes (11%)	No (89%)

The findings in table 4.9, a small percentage of 31% show that inventor management is automated in the tractor manufacturing companies and 79% show that inventory management is not automated in the tractor manufacturing companies. This shows that tractor manufacturing companies have to some small extent adopted the use of Information Technology in inventory management. They have automated some of their inventory management systems. Christopher (2005) asserts that the use of information Technology in inventory management is more efficient than the use of manual systems.

4.7 Legal policies

The fourth objective of the study was to examine the effect of the legal policies on inventory management in the tractor manufacturing companies on the performance of the procurement function of tractor manufacturing companies. The results are recorded in the charts and the tables.

Table 4.10: Legal policies

Statement	Yes	NO	
Are you familiar with the public procurement policies and the role of the tractor manufacturing companies in the tractor manufacturing companies?	43%	57%	100%

From table 4.10, it was established that 57% of the respondents were not familiar with the legal policies in place and the role of the government and legal policies of Tractor manufacturing companies management. 43% of the respondents were familiar with the legal polices and the role of the Tractor manufacturing companies Board. The findings imply that a greater percentage of the respondents are not familiar with the laws guiding the procurement procedures and the legal framework of the tractor manufacturing companies in India.

Table 4.11: Effect of the legal policies on inventory management activities

Statement	Yes	NO	
Are the inventory management activities affected by the legal policies in place?	49%	51%	100%

affected by the legal policies in place and companies. The findings are recorded in

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...had ever seen some performance ... ANOVA result for all variables ...ates that there was a highly significant ...onship between the variables at F = ... and P = 0.000. This implies that

... SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

...1 Summary of Major findings 5.1.1 Significance of a lean inventory system
...study found that improving production scheduling can reduce inventory levels ...ing MRP systems. This helps in ...ting lean inventory systems to some ... in the tractor manufacturing companies in India and thus improving the performance of the procurement function because it is able to forecast the demand of the raw materials and the consumables.

5.1.2 Strategic supplier partnerships The study found out that short term relationships with suppliers are adversarial because the procurement function is not keen on frequent communication with the suppliers as well as their appraisal. The ... a challenge to the procurement function of the tractor manufacturing companies when sourcing for suppliers.

5.1.3 Use of Information Technology The study found out that the use of information technology applications in inventory management improves the performance of the procurement function of tractor manufacturing companies in India because automation of the inventory system helps in reducing errors and waste in inventory management thus improving the performance of the procurement function.

5.1.4 Effect of legal policies
Legal policies help the procurement function of tractor manufacturing companies to manage its inventory and improve its performance because it provides a legal framework to adhere to and guidelines on how to undertake the various procurement activities.

measurement procedures. there is a strong relationship between the four variables and the performance of the procurement function of tractor manufacturing companies.

5.2 Conclusion of the Study.
The study found that inventory management affects the performance of the procurement function of tractor manufacturing companies. Use of a lean inventory system improves the performance of the procurement function. A strategic relationship with suppliers in inventory management is important in the performance of the procurement function. Finally legal policies in the tractor manufacturing companies contributed to the performance of the procurement function of the tractor manufacturing companies.

5.3 Recommendations for the study The following are recommendations of the study based on the findings.

5.3.1 Significance of a lean inventory system
The tractor manufacturing companies manufacturing t should fully adopt lean inventory systems inventory management as this will greatly improve the performance of the procurement function. JIT systems should also be integrated by the tractor manufacturing companies **5.3.2 Strategic supplier relationships** Long term relationships with suppliers should be sought by the tractor manufacturing companies. The companies should also enhance their communication with suppliers by adopting VMI which will ultimately shift the responsibility of inventory management from the procurement function to the suppliers thus improving the performance of the procurement function. Supplier appraisal by the procurement function should be a key element in inventory management as this will help evaluate the suppliers and choose the best from the many and develop long term round table relationships with them.

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ISSN: 2278-4632
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[illegible] of Information Technology [illegible] manufacturing companies should [illegible] information technology in inventory [illegible] Automation can help the [illegible] function in stock control by [illegible] control levels and calculating [illegible] of stocks to hold and dispatch [illegible] the performance of the [illegible] function **5.3.4 Effect of legal policies** [illegible] the procurement function of the [illegible] manufacturing companies in India [illegible] adhere to the legal policies in place [illegible] will help the procurement function [illegible] manage its inventory and improve its performance because of the legal

framework that is provided. **5.4 Areas for Further Study** From the recommendations, it is clear that the effect of a lean inventory system, strategic supplier partnerships, information technology and legal policies in inventory management affects the performance of the procurement function of tractor manufacturing companies. Researcher supports and suggest the following areas for further study: lean inventory systems, legal policies in the tractor manufacturing companies, IT in inventory management, and strategic supplier partnerships.

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International Journal of Mechanical and Production
Engineering Research and Development (IJMPERD)
ISSN (P): 2249-6890; ISSN (E): 2249-8001
Vol. 10, Issue 3, Jun 2020, 7199-7208

SOCIAL MEDIA PLATFORMS AND ONLINE PURCHASE: VIVID PERSPECTIVES AND THE EXTENT OF THEIR INFLUENCE

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ABSRACT

Web based life has reformed the methods of correspondence and sharing data and interests. The fast development of online networking and long range informal communication destinations, particularly, in creating nation like India is giving advertiser another road to contact clients. The examination endeavours to evaluate the effect of utilization of online life on buy choice procedure. The investigation finds that the online life is most broadly utilized in data hotspot for amusement, systems administration, and data on new brands. Likewise, the online life audits and feelings influence the buy choice procedure; be that as it may, propensity of offer their encounters post buy is shockingly acceptable. The research has been made on a sample size of 210residing in Jaipur to observe and study the buying preferences and features of online purchasers. earlier also the research has been done on this but in this research the researchers tried to bring forward the perceptions of online buying and the increasing role of social media in it.

KEYWORDS: Buying Behaviour, Market Players, Online, Purchase & Social Media

Received: Jun 06, 2020; **Accepted:** Jun 26, 2020; **Published:** Aug 07, 2020; **Paper Id.:** IJMPERDJUN202068I

Original Article

1. INTRODUCTION

The development of online business was driven by fast innovation selection drove by the expanding utilization of gadgets, for example, PDAs and tablets, and access to the web through broadband, 3G, 4G, and so on expanded online purchaser base. Besides, supported socioeconomics and a developing web client base assisted with helping this development. As far as features, the development appeared by home-developed players, for example, Flipkart and Myntra and the gigantic financial specialist enthusiasm around these organizations showed the monstrous capability of the market. With the section of web based business behemoths, for example, Amazon and ebay, the opposition is relied upon to additionally increase. Both these global players accompany profound pockets and the tolerance to drive the Indian internet business.

The effect of web based life on online buy is high. It fills a fundamental need in internet promoting by helping organizations to build up more grounded web nearness, produce leads and increment traffic . An all around organized online networking procedure is significant for improving the turn of events and development of a web based business. Web based life keeps on picking up prominence attributable to its business accomplishment around the globe. A huge level of promoting efforts happen through online networking site. Remembering internet based life for a push to progress web based business can be profoundly helpful. It gives a powerful method to pull in light of a legitimate concern for the enormous crowds that utilizes web based life.

The utilization of online life has seen fast development over a period with a few people making buys through it. Numerous organizations have selected to make the most of the open doors introduced by web-based social

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networking systems to get more clients. Albeit some entrepreneurs might be incredulous about utilizing internet based life, actually it is a beneficial incorporation in web based advertising efforts.

- •Social media destinations provide food for creative highlights, for example, 'similar to' catches and remark segments much of the time used to encourage discussions. Sharing data through online networking is significant in light of the effect it has on the decisions that individuals make while choosing items and administrations.
- •Incorporating Share catches for internet based life stages, for example, LinkedIn, Facebook and Twitter on your site will permit you to publicize your business and advance connection. A few internet based life clients make their buys online after they share things on Pinterest, Facebook and Twitter. This is an away from of how crucial web based life organizing is in web based business. Customers around the globe will go through billions of their well deserved cash every year through the available foundation of online networking.

Value of Social Media

Internet based life should be a piece of an organization's promoting spending plan since it gives an incredible method to make an association with the focused on crowd. From Instagram to LinkedIn, there are basically boundless approaches to cooperate and share data just as market the items. Interpersonal organizations empower to interface with new clients and keep in contact with the presence clients. Online networking improves client assistance by making availability to clients who tend to look for sure fire criticism. It reacts in an ideal way to their interests and requests. Purchasers depend on social locales to get some answers concerning items and administrations. Improved profiles and helpful data will make a positive initial introduction for online business.

OBJECTIVES

- To study the buyers profile that buy items from on the web;
- To distinguish the elements impact the clients to buy items through web based life;
- To discover the items bought through on the web; and
- To investigate the post buy conduct of shoppers.

2. REVIEW OF LITERATURE

Hoffman and Novak have shown that intuitiveness is the key distinctive component between promoting correspondence on the Internet and customary broad communications. Today online purchasers have more control and dealing power than customers of physical stores in light of the fact that the Internet offers more interactivities among shoppers and item/specialist organizations just as more noteworthy accessibility of data about items and administrations. Geissler and Zinkhan asserted that the Internet moved the perceived leverage for purchasers as it turned out to be simple for them to make shopping correlations and assess choices without being constrained by sales reps. Online stores diminish exchange costs and have advantage for the two customers and sellers. Armstrong, Armstrong et al.have the examination on purchaser purchasing conduct dependent on buy expectation has been created in showcasing for over 20 years. One issue stays debatable is whether buy expectation can successfully foresee buyer purchasing conduct. Norazah Suki and Norbayah Suki recommended advertisers ought to propose more on appealing advancement, for example, promotions or limits through the web. Yulihasri et al. considered the handiness of web shopping, convenience, similarity, protection, security, regulating convictions, self-

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adequacy, demeanor and understudy's purchasing goal. They found that web publicizing well impacts the buying of an organization's items. Customers progressively need what's known as a "consistent omnichannel understanding", which means one in which retailers permit them to join on the web and physical perusing, shopping, requesting and returning in whatever combo they might want. Sharma et al, evaluated the web based purchasing conduct of buyers in India, and found that customers are dreaded of unbound exchanges in online installment and greater part of online purchasers are from 18-25 years. Ioanas and Stoica address the effect of web based life on shopper conduct, purchasers favors internet purchasing for accommodation and a large portion of the clients are checking the item data before purchasing the items. Bauboniene and Guleviciute the primary components affecting shoppers to shop online are comfort, straightforwardness and better cost. Muda et al. explored that online buy conduct of Gen Y in Malaysia and recognize the variables drive the conduct. They found that Gen Y in Malaysia purchases generally from online retailers working through Facebook and Instagram.

3. RESEARCH METHODOLOGY

The examination configuration chose for the investigation is exploratory and expressive in nature. Exploratory examination configuration is characterized as "Examination concerning an issue or circumstance which gives experiences to the specialist. The exploration is intended to give subtleties where a modest quantity of data exists. It might utilize an assortment of techniques, for example, preliminary investigations, interviews, bunch conversations, tests, or different strategies to pick up data, and Descriptive examination incorporates overviews and actuality discovering enquiries of various types. The significant reason for graphic exploration is depiction of the situation as it exists at present.

The survey had the accompanying measurements:

- •Socio and Economic profile of the respondent, for example, sexual orientation and age, training, occupation and pay
- •The mechanical, shoppers and item/administration factors affecting the online buy.
- •Behavior of visiting web based life destinations, recurrence of visits, sum spent and item bought.
- •Various traits instigate online life clients are amusement, organizing, data on new brands, etc.

Data Collection

Information is gathered through essential sources. An all around organized poll arranged to gather information from respondents related Socio and Economic and traits instigate internet based life clients. Information was gathered from 210 respondents residing in Jaipur.

Primary Data

The essential information are those which are gathered a new and just because and in this manner happen to be unique in character. The essential information gathered through review. This investigation has gathered essential information through poll from different respondents, for example, understudies, teachers, private division workers and IT representatives.

Secondary Data

Optional information is the information that have been now gathered and promptly accessible from different sources, for example, different distributions of Central, State and Local Governments, different distributions of outside governments or International bodies, Technical and exchange diaries, Books, magazines, and new paper, reports arranged by research researchers, college financial analysts, etc.

Instruments for Analysis:

- •Percentage Analysis;
- •Cross Tabulation;
- •Chi Square Test and
- •Mean Score were utilized to dissect the gathered information.

Percentage Analysis

Table 1: Socio Economic Profile of Customers

Particulars		No. of Respondents	Percentage
Age	18-25	96	46.2
	26-35	72	33.5
	>36	42	20.3
	Total	210	100
Gender	Male	126	60
	Female	84	40
	Total	210	100
Income	< 10,000	84	40
	10,000-30,000	42	20
	30,000-50,000	18	8.57
	50,000-70,000	24	11.43
	>70,000	42	20
	Total	**210**	**100**

Source: Primary Data

Age

Out of 210 Respondents, 46.2% of the respondents are in the age group of 18-25, followed by 26–35 (33.5%), and more than 36(20.3%). The minimum age of the respondents was 18 years and the maximum was 32 years, which shows that the respondents of various age groups are involved in online shopping. All of them had Social Media Account.

Gender

Outof210 (126)Respondents 60.0%of the respondents are male and (84) 40.0% are female who are all buying the products through online shopping.

Income

Out of 210 respondents, 40% are earning less than 10,000 Rs. per month, 20% are earning Rs. 10,000-30,000 per month, 8.5% are earning Rs. 30,000 -50000 per month, 11.43% are earning Rs. 50,000-70,000 per month and 20% are earning more than 70,000 per month.

Table 2: Number of Respondents Based on Frequency of Accessing Social Media Account

Frequency of Accessing	Number of Respondents	Percentage
Every Hour	49	23.33
Every Day	63	30
Every Week	35	16.67
Fortnightly	38	18.1
Once in a Month	25	11.9
Total	**210**	**100**
Source: Primary Data		

The table.2 presents the frequency of accessing social media a/c by respondents. Accessing frequency measurement ranges from one hour to once in month. 23.33 % of respondents are accessing their social media accounts every hour followed by 30% were accessing every day. 16.67% access every week rest 18.1% access fortnightly and 11.9% once in a month respectively.

Table 3: Number of Respondents Based on Time Spent on Social Media

Time Spent(in Hours)	No. of Respondents	Percentage
< 1	28	13.33
1 to 5	126	60
5 to 8	42	20
>8	14	6.67
Total	**210**	**100**
Source: Primary Data		

The table.3 represents the time spent on social media by respondents in a day. Times spent are ranges from 1hr to more than to 8 hours.60 % of respondents spends 1 to 5 hours a day with social media, followed by 20% is 5-8 hours and rest 6.67% spent more than 8 hours. The table proves that most of the respondents (120) spent 1-5 hours on social media for vivid purposes.

Table 4: Number of Respondents Based on the Number of Bands following in Social Medial

Number of Brands	Number of Respondents	Percentage
1	51	24.3
2	54	25.7
3	15	7.1
>3	90	42.9
Total	**210**	**100**
Source: Primary Data		

The table 4 displays the number of brands followed by respondents in social media. Their numbers are ranging from1to >3. Most of the respondents (42.9%) are following more than 3 brands in social media, 25.7% of respondents are following two brands, 24.3% are only one and 7.1% are following 3brands on social media.

Table 5: Number of Respondents Based on the Products Generally Purchased through Online

Products Purchased	Number of Respondents	Percentage
Books & Stationary	7	3.33
Electronics & Accessories	42	20
Clothes, PC & Mobile	42	20
Cosmetics	21	10
Kitchen Utensils	14	6.67
Furniture	7	3.33
Clothes, PC & Mobile Accessories, Kitchen utensils	35	16.67
Electronics Accessories Cloths, PC and Mobile	28	13.33
Electronics, Cloths, PC, Mobile and Kitchen Utensils	14	6.67
Total	**210**	**100**

Source: Primary Data

The table5 shows the list of products usually purchased by the respondents online out of 210 respondents 20% of respondents bought only electronic items such as pc and mobile accessories. 20% purchased Electronics, Clothes PC and Mobile Accessories,10%bought cosmetics,16.67 purchased Clothes, PC and Mobile accessories and kitchen accessories, 3.33% spent on different heads such as books,, electronics, kitchen accessories, furniture each constitutes 3.33% respectively. Electronics, clothes, PC and Mobile accessories are purchased largely online.

Table 6: Number of Respondents Based on Mode of Payment

Mode of Payment	Number of Respondents	Percentage
Cash on Delivery	90	42.86
Wallet	63	30
Credit/Debit Card	42	20
Net Banking	15	7.14
Total	**210**	**100**

Source: primary Data

The table 6 depicts distribution of respondents on the basis of Mode of Payment. every respondent(100%)purchased variety of products online. Of those 42.86% of respondents preferred COD, 20% preferred credit/debit card payment and rest 7.14% chose net banking as mode of payment for online purchase.

Table 7: Number of Respondents Based on Amount Spent on Buying Through Online

Amount Spent (In Rs.)	Number of Respondents	Percentage
<1000	63	30
1000-5000	35	16.67
5000-10,000	42	20
10,000-15,000	35	16.67
15,000-20,000	21	10
>20,000	14	6.66
Total	**210**	**100**

The table.7 shows the distribution of respondents according to the amount spent in the last 2 months through online. 30% spent less than Rs.1000 on online, 16.67% spent Rs. 1000-5000 on online, 20% spent Rs. 5000- 10000 on online, 16.67% spent Rs.10000-15000 on online, 10% spent Rs. 15000-20000 on online, 6.66 % spent more than Rs 20000.

Hypothesis Testing

- **significant association between age and buying behaviour**

Hypothesis

- **H_0: There is no significant association between age and buying behaviour.**
- **H_1: There is significant association between age and buying behaviour.**

Result of Data Analysis

Table 8

Number of Products Purchased	Age			Row Totals	
	18-25	26-35	36 & Above		D F=6
1	60 (61.11) [0.02]	12 (14.17) [0.33]	21 (17.71) [0.61]	93	Table value=12.592
2	27 (25.63) [0.07]	6 (5.94) [0.00]	6 (7.43) [0.27]	39	
3	12 (9.86) [0.47]	2 (2.29) [0.04]	1 (2.86) [1.21]	15	The chi-square statistic is 3.759
>3	39 (41.40) [0.14]	12 (9.60) [0.60]	12 (12.00) [0.00]	63	
Column Totals	**138**	**32**	**40**	**210 (Grand Total)**	

- DF=6, Table Value at 5% level of Significance = 12.592

Interpretation: A chi-square test of independence showed that there was no significant association between age and buying behavior as the chi-square statistic 3.759 is less than table value 12.592 at 5% level of significance.

- **significant Association between Gender and Buying Behaviour:**

Hypothesis

- **H_0: There is no significant Association between Gender and Buying Behaviour.**
- **H_1: There is significant Association between Gender and Buying Behaviour.**

Result of Data Analysis

Table 9

Number of Products Purchased	Gender		Row Totals	
	Male	Female		DF=3
1	63 (54.47) [1.34]	30 (38.53) [1.89]	93	Table Value=7.815
2	16 (21.67) [1.48]	21 (15.33) [2.10]	37	chi-square statistic is 23.3444
3	11 (21.09) [4.82]	25 (14.91) [6.82]	36	
>3	33 (25.77) [2.03]	11 (18.23) [2.87]	44	
Column Totals	**123**	**87**	**210 (Grand Total)**	

- DF=3, Table Value at 5% level of Significance = 7.815

- **Interpretation**: A chi-square test of independence showed that there was a significant association between Gender and buying behavior as the chi-square statistic 23.3444 is more than table value 7.815 at 5% level of significance.
- **Significant Association between Income and Buying Behaviour:**

Hypothesis

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- **H_0: There is no Significant Association between Income and Buying Behaviour.**
- **H_1: There is Significant Association between Income and Buying Behaviour.**

Result of Data Analysis

Table 10

Number of Products Purchased	Income					Row Totals
	<10,000	10,000-30,000	30,000-50,000	50,000-70,000	>70,000	
1	27 (25.24) [0.12]	18 (14.61) [0.78]	9 (13.29) [1.38]	18 (22.59) [0.93]	21 (17.27) [0.80]	93
2	12 (10.59) [0.19]	3 (6.13) [1.60]	9 (5.57) [2.11]	12 (9.47) [0.68]	3 (7.24) [2.49]	39
3	3 (4.07) [0.28]	3 (2.36) [0.18]	3 (2.14) [0.34]	3 (3.64) [0.11]	3 (2.79) [0.02]	15
>3	15 (17.10) [0.26]	9 (9.90) [0.08]	9 (9.00) [0.00]	18 (15.30) [0.48]	12 (11.70) [0.01]	63
Column Totals	**57**	**33**	**30**	**51**	**39**	**210 (Grand Total)**
• Df=12, Table Value at 5% level of Significance = 21.026 and chi-square statistic is 12.8356						

- **Interpretation**: A chi-square test of independence showed that there was no significant association between age and buying behaviour as the chi-square statistic 12.8356is less than table value 21.026 at 5% level of significance.

FINDINGS AND CONCLUSIONS

It was found that the most of the males were active in online purchases and the people of age group 18-25 are more prompt in online purchases. 1-5 hours a day are spent by most (60%) of the people. Frequently purchased articles online are electronic items, cloths, Pcs and mobiles. 42.86% prefer COD while doing online purchasing. 16.67% people spent 1000-5000 and 10000-15000 Rs. In last two months on online purchasing.

Interpersonal organizations have a job in affecting the conduct of shoppers in the virtual conditions, especially when the level of presentation of messages and the connection made between the assortment of data given and the client who is going to make a buy. There are numerous individuals who are as purchasers of specific items, for example, gadgets, garments, books, home apparatuses are bought through on the web. While going to the most significant trait that causes a buyer to decide to purchase items through online are quality, security of credit/platinum cards, and assortment of items, etc. According to the exploration shoppers ordinarily go through over three hours per day on the web based life and the significant reason for existing was discovered to be long range interpersonal communication and data gathering. Customers depend upon more than one medium so as to improve their image related information. It implies that they utilize the mix of different hotspots for settling on definite buy choice. Alongside the conventional sources, they intensely depend on current showcasing instrument for example internet publicizing. Shoppers do require point by point data about the brand in order to assess its qualities and shortcomings; this abundant measure of data spares their time by permitting them to settle on the buy choice rapidly.

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International Journal of Scientific & Engineering Research Volume 11, Issue 6, June-2020
ISSN 2229-5518

Liquidity Management Analysis of FMCG Industry in India: A Comparative Study

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Abstract— Liquidity management is a concept that is gaining serious attention all over the world because of the current financial disorder and business environment in world economy. The concern of promoters and managers all over the world is to plan a strategy which will help in keeping up liquidity as well as to increase profitability and owner's equity. Liquidity is thought as the obligation paying capability of a business entity. It is the ability of a company to meet the short term liabilities. Hence, it is of utmost important to keep a steady eye on liquidity position of the company as without it the business entities cannot survive. In this paper a comparative analysis on the liquidity position of five leading Indian FMCG companies has been done to know the liquidity position of the companies. The study covers a period of 5 years viz., 2014-2015 to 2018-2019. For the purpose of study, purely secondary data is used. The technique of mean, standard deviation, coefficient of variation, ratio analysis, and ANOVA test has been applied to analyze the data. This study may be a humble plan to determine the analysis of liquidity management of FMCG companies.

Index Terms—Business Environment, FMCG Industry, Liquidity, Solvency Capacity, Short Term, Variability, Working Capital

1 Introduction

Industrial suffering in India is ram-pant. One potential purpose behind industrial disorder is the poor administration of liquidity. A firm so as to stay in presence and continue its exercises as a going concern must stay fluid and meet its commitments as and when they become due. An order arrangement of the elements of financial management joins the twin objectives of liquidity and benefit. The capacities are coordinated towards accomplishing either or both of these objectives.

In present scenario of corporate world has an issue in association with liquidity being the most widely recognized among most of the enterprises, support of sufficient liquidity is the prime concern of the administrative persons. The requirement for effective liquidity the executives can't be over-underscored in such a circumstance. A solid liquidity base might be distinguished as the essential power of any concern for continuing its everyday activities. Moreover, the sound liquidity position empowers the concern in keeping up a good acknowledge term for its suppliers.

Beside these lines, to authority over the working cycle chances, not just the corporate goliaths however basically all the business enterprises are independent of their sizes, have been concentrate much on the management of liquidity. A business entity in the purchaser products industry may have usually a higher level of the complete attention in current resources when disparity with the interest in fixed resources. Initially there of view liquidity the executives may expect a more important significance in FMCG industry.

FMCG sector in India has been playing a very important role in building up its economy. The industry is not just by giving a large number of buyer merchandise vital for conveying on everyday exercises of the general individual but also creating lots of jobs in India. The pay just as the consumption designs of the individuals of India has checked outstanding changes in the post-liberalization period. Thus, the business entities having a place with the FMCG segment have similarly altered their business strategies to deal with the various difficulties exuded from the advancement estimates initiative by the administration of India. It prompts remarkable changes in the liquidity the executive rehearses in Indian FMCG companies.

2 Objectives of the Study

In broad sense objectives of the study are to analyse the liquidity position of FMCG companies in India. The objectives are as under:

- To analyse liquidity position
- To examine the cash position
- To make suggestions for improvement of financial soundness

3 Review of Literature

A brief review of the different researches in the field is undertaken as following:

Ghosh and Maji (2003) attempted to study the efficiency of working capital management of Indian cement companies during 1993 to 2002. By using regression analysis and industry standards as an objective proficiency level of individual firms, they tried the speed of accomplishing objective degree of effectiveness by a single firm during the time of study.

Dr. Bhayani (2004) has carried out study on working capital and profitability of cement industry and revealed that profitability is highly influenced by working capital and Linkage between asset management and profitability of Indian Industry.

Elijelly (2004) the study on "Liquidity - profitability tradeoff: An empirical study in an emerging market" it was empirical study to analyse the correlation between profitability and liquidity, on a sample of joint stock companies in Saudi Arabia. The research reveals that significant negative correlation between the firm's profitability and its liquidity point, as tested by current ratio.

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Singh and Pandey (2008) recommended that, the victorious working of any business organization is dependent on optimum level of fixed and current assets and that the management of working capital is important as it has a directly affected to the profitability and liquidity. They found a significant impact of working capital management on profitability of Hindalco Industries Limited.

Velmathi and Ganesan (2009) studied the impact of liquidity and solvency on profitability for the period from 1999 and 2007 with the help of absolute value and financial ratios of the Neyveli Lignite Corporation limited. They observed that the working capital position of the company is excellent and maintained a proper substitution between profitability and liquidity management.

Sherin (2010) in her research paper on "Liquidity v/s profitability - Striking the right balance" enlightened about the implications of liquidity and profitability in a pharmaceutical industry. A firm is required to keep up a harmony among liquidity and profitability while leading its everyday tasks. Interests in current resources are inescapable to guarantee conveyance of merchandise or administrations to definitive clients. A legitimate administration of the equivalent could bring about the ideal effect on either profitability or liquidity.

Brahma (2011) A research was conducted to investigate and estimate the impact of liquidity management on profitability as a variable accountable for bad financial performance in the private sector steel Industry in India.

Priya and Nimalathasan (2013) examined the association between liquidity management and profitability of selected companies in Sri Lanka using 5 years period starting from 2008 to 2012 based on statistical tools. The research found that there was a negative relative correlation existed between liquidity management and profitability.

It would be observed that, as literature are covered with studies relating to liquidity/working capital in relationship with profitability; there exist scanty studies that address the issues of optimum usage of current assets for liquidity management and trends of working capital availability during the study period. Basically this paper deal with how effective liquidity is managed by the selected FMCG companies in India.

4 Research Methodology

4.1 Sample size:

Five leading companies under FMCG sector i.e. *Dabur India, HUL, Procter & Gamble, Colgate-Palmolive, ITC*

4.2 Data Selection:

The source of data for this study was primarily from secondary sources. The annual financial reports for the selected companies were used as a source of secondary data.

4.3 Period of Study:

The study has been undertaken for a period of 05 year from 2014-15 to 2018-19.

4.4 Hypothesis:

H_o 1: There is no difference between mean current ratios of selected FMCG companies and follow the same strategy to meet short term obligations.
H_1 1: There are differences between mean current ratios of selected FMCG companies and don't follow the same strategy to meet short term obligations.

H_o 2: There is no difference between mean quick ratios of selected FMCG companies and follow same policy to meet urgent cash requirement.
H_1 2: There are differences between mean quick ratios of selected FMCG companies and don't follow same policy to meet urgent cash requirement.

H_o 3: There is no difference between mean inventory turnover ratio of selected FMCG companies and have a similar type of inventory turnover management.
H_1 3: There are differences between mean inventory turnover ratio of selected FMCG companies and don't have a similar type of inventory turnover management.

H_o 4: There is no difference between mean debtors' turnover ratios of selected FMCG companies and it is considered that impact of debtors' turnover ratio is same on the entire firm's working capital management.
H_1 4: There is difference between mean debtors' turnover ratio of selected FMCG companies and the effect of debtors' turnover ratio is not same on the entire firm's working capital management.

H_o 5: There is no difference between mean dividend payout ratios of selected FMCG companies and it is considered that effect of dividend payout ratio is same on the firm's working capital management.
H_1 5: There is difference between mean dividend payout ratios of selected FMCG companies and the effect of dividend payout ratio is not same on the firm's working capital management.

4.5 Tools used for analysis:

In order to analyse liquidity management of the selected FMCG companies, measure Liquidity ratios i.e. current ratio, quick ratio, inventory turnover ratio, debtors turnover ratio and dividend payout ratio etc, a part of this arithmetic mean, coefficient of variance, maximum & minimum values of ratios during the study period is calculate and ANOVA test applied to test the hypothesis and draw conclusions.

4.6 Limitations of the Study:

1. This study is based on secondary data taken from published annual reports of selected FMCG companies.

2. The different approaches have been applied in the calculation of different ratios.
3. The present study is largely based on ratio analysis and has its own limitations.

5 Data Analysis and Findings (Ratio Analysis)

5.1 Current Ratio:

This ratio reveals the ability of the firm to meet its current obligations and the margin of safety of funds to short-term creditors. If the current ratio is higher, it is good from the trade payables point of view but extremely high current ratio is not good from the management's point of view, it indicates poor investment policy. Current Ratio of 2:1 is considered satisfactory whereas Tondon committee has recommended the ideal Current Ratio for bank financing is 1.33:1. This ratio expressed as a formula is as follows:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The table 5.1 reveals the current ratios in the FMCG Companies during the period of the study.

Table 5.1Current Ratios (in Times)

Companies	Years					Mean	Coef. Of Var	Max.	Min.
	2019	2018	2017	2016	2015				
Dabur India	1.4	1.59	1.18	1.32	1.25	1.408	9.47	1.59	1.25
HUL	1.30	1.29	1.2	1.43	1.05	1.250	11.14	1.43	1.05
Procter & Gamble	7.83	3.31	3.08	3.45	3.66	4.272	46.84	7.83	3.08
Colgate-Palmolive	0.96	1.08	0.87	0.91	0.8	0.928	11.29	1.08	0.8
ITC	3.07	2.77	3.59	1.65	2.05	2.626	29.69	3.59	1.65
Mean	2.924	2.01	2.064	1.756	1.768	2.104			

Source: Annual Reports

According to the table 5.1 the current ratio of Dabur India and HUL show that both the companies are following same police regarding working capital management, both the companies are maintaning the standard of current ratio recommended by Tondon Committee. Now a days the standard of 2:1 is not relevant because borrowing of short term loans are very easy to fulfill the short term finance requirements. Procter & Gamble is maintaning very high current Ratio which shows that company has poor investment policy and suffring with high opportunity losses and high working capital cost. The coefficient of varation of P & G i.e. 46.84%, which is very high and it reflects that company is not following any standard to control the proprotions of inlow and outflow of funds. The current ratios of Colgate-Palmolive representing that the short-term solvency capicity of company was very poor during the study period, the infolw of funds are less than the outflow of funds. The mean of current ratio is .928, it shows that the company has negative working capital which convey the message to the suppliers that company has bad solvency capacity. The working capital ratio of ITC was little bit higher than the standard ratio during the study period, which shows that the company need to evaluat their investment policy as well as the control system over inflow and outflow of funds. The high current ratio of ITC increasing the working capital cost and also creating opportunity losses for the company.

Hypothesis testing:

H_0 1: There is no difference between mean current ratios of selected FMCG companies and follow the same strategy to meet short term obligations.

H_1 1: There are differences between mean current ratios of selected FMCG companies and don't follow the same strategy to meet short term obligations.

Current Ratio ANOVA TEST Result Details				
Source	*SS*	*df*	*MS*	
Between Sample	4.59	4	1.15	*F = 0.44431*
Within Sample	51.61	20	2.58	
Total	**56.19**	**24**		

Interpretation :

The *f*-ratio value is 0.44431. The *p*-value is .775194. The result is *not* significant at $p < .05$. So that $H_0$1 is selected and $H_1$1 is rejected.

5.2 Quick Ratio:

Quick Ratio is the measure of the instant debt paying ability of the business enterprise, hence it is also called acid test ratio. This ratio ascertained the relationship between quick assets and current liabilities. The formula used is:

$$\text{Quick Ratio} = \frac{\text{Cash + Receivables + Marketable Securities}}{\text{Current Liabilities}}$$

OR

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventories} - \text{Prepayments}}{\text{Current Liabilities}}$$

The quick ratio is an indication of a firm's ability to meet unexpected demand for working capital. A quick ratio of 1:1 is considered as an ideal ratio but, it is dangerous to rely too much on this standard for the liquid ratio without further investigation. A reasonable standard for the liquid ratio may vary from season to season or industry to industry. The appraisal of current ratio to liquid ratio would specify the degree of inventory held up. A high liquidity ratio compared to current ratio may signify under stocking while a low liquid ratio specifies overstocking.

Table 5.2 Quick Ratios (in Times)

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Companies	Years					Mean	Coef. Of Var	Max.	Min.
	2019	2018	2017	2016	2015				
Dabur India	0.82	1.02	0.98	0.91	0.81	0.93	8.6	1.02	0.81
HUL	1.07	1.02	0.97	1.05	0.76	0.97	12.87	1.07	0.76
Procter & Gamble	7.25	2.01	2.26	2.45	2.18	3.39	63.61	7.25	2.28
Colgate-Palmolive	0.72	0.85	0.57	0.58	0.5	0.64	21.75	0.85	0.5
ITC	2.28	1.55	2.44	1.07	1.28	1.82	32.07	2.44	1.07
Mean	2.45	1.49	1.45	1.21	1.17	1.55			

Source: Annual Reports

The above table indicates that Dabur India and HUL are following the same liquidity policy throughout the study period. The Quick ratio of Dabur India and HUL were risky in the year of 2015 and 2017 where the actual Quick ratios were lessthan 1:1 ratio during the study period. The Quick ratios of Procter & Gamble were very high during the study period, most of the time it were morethan 2: 1 ratio. The high quick ratio explains that the company maintaining most of its current assets in cash and cash equalants and purchases raw material on cash from its supplyers, that's why the current liabilities were very less. The Coefficient of Variation of Procter & Gamble was 63.61%, it means that there is very high instability in management of quick assets of company. The above table showed that Colgate-Palmolive was performed very bad during the study period, companies mean quick ratio was .644: 1 which is not significant and showing worst payback capicity. Quick ratio of ITC were very high and reflecting that the company also following a conservative approch to disposed off its very short term liabilities. The Coefficient of Variation of these companies were showing very high varation, it reflect that these companies are not following the same police for very short term solvency capicity.

Hypothesis testing:

H_0 2: There is no difference between mean quick ratios of selected FMCG companies and follow same policy to meet urgent cash requirement.

H_1 2: There are differences between mean quick ratios of selected FMCG companies and don't follow same policy to meet urgent cash requirement.

Quick Ratio ANOVA Test Result Details				
Source	*SS*	*Df*	*MS*	
Between Sample	5.41	4	1.35	$F = 0.67895$
Within Sample	39.84	20	1.99	
Total	**45.25**	**24**		

Interpretation :

The f-ratio value is 0.67895. The p-value is .614561. The difference is significant at $p < .05$. So that $H_0 2$ is rejected and $H_1 2$ is selected.

5.3 Inventory Turnover Ratio:

This ratio reveals the number of times finished goods inventory is turned over during a given accounting period in relation to revenue from operations. It also tells us that the investment in inventory is within proper limit or not. So that, a high inventory turnover ratio is better than low ratio. A high ratio reveals well-organized business activities and is a sign of under investment in inventory. The inventory turnover ratio is also an index of profitability as a high ratio indicates more profits.

Table 5.3 Inventory Turnover Ratios (in Times)

Companies	Years					Mean	Coef. of Var	Max.	Min.
	2019	2018	2017	2016	2015				
Dabur India	8.56	7.93	8.83	9.14	9.86	8.9	8.28	9.86	7.93
HUL	15.78	14.64	13.5	12.28	11.84	13.61	11.99	15.78	11.84
Procter & Gamble	7.49	7	6.01	5.02	4.89	6.2	16.87	7.49	4.89
Colgate Palmolive	15.95	18.47	15.01	14.22	15.76	16.01	13.55	18.47	13.61
ITC	5.93	5.81	5.1	4.32	4.56	5.12	12.9	5.92	4.32
Mean	11.14	10.73	9.41	9.16	9.41	9.97			

Source: Annual Reports

A high ratio reflects efficient business activities with low investment in inventory. Above table 5.3 reveal that Colgate-Palmolive and HUL performed well during the study period, both the companies maintained their Inventory Turnover Ratio above 10 times and their average ratios are 16.008 and 13.61 times respectively. The average ratio of ITC is 5.124, it can be say that the ratio was very low during this period and it reflects that ITC invested more in inventory. The ratios of Procter & Gamble shown a progressive pattern during this period it range of ratio was 4.89 to 7.49 which is good but not significant in terms of FMCG sector. Dabur India performed consistently during this period. Its coefficient of variation is lowest amount all the companies, which shows that the Inventory control system of company is very strong. The coefficient of variations of all the companies were not very high, its means that the Inventory management system was followed with stability.

Hypothesis testing:

H_0 3: There is no difference between mean inventory turnover ratio of selected FMCG companies and have a similar type of inventory turnover management.

H_1 3: There are differences between mean inventory turnover ratio of selected FMCG companies and don't have a similar type of inventory turnover management.

Inventory Turnover Ratio ANOVA Test Result Details				
Source	*SS*	*df*	*MS*	
Between Sample	16.18	4	4.05	*F = 0.17433*
Within Sample	464.16	20	23.21	
Total	**480.34**	**24**	**0**	

Interpretation :

The f-ratio value is 0.17433. The p-value is .948989. The result is not significant at $p < .05$ so that Ho 3 is selected and H_1 3 is rejected.

5.4 Debtors Turnover Ratio:

This ratio establishes the relationship between net credit revenue from operations and average trade receivables of the year. This ratio indicates the number of times the trade receivables are turned over in a year in relation to revenue from operations. It shows how quickly trade receivables are converted into cash. A higher trade receivables turnover ratio shows the efficiency in collection from trade receivables i.e. trade receivables are being collected more promptly. The formula used for its computation is as follows:

$$\text{Debtor's Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Trade Receivables}}$$

Table 5.4 Debtors Turnover Ratio (in times)

Companies	Years					Mean	Coef. of Var	Max.	Min.
	2019	2018	2017	2016	2015				
Dabur India	15.56	16.67	17.09	14.03	15.34	**15.7**	7.79	**17.09**	**14.03**
HUL	28.53	27.11	33.28	32.02	33.64	**30.92**	**9.48**	**33.64**	**27.11**
Procter & Gamble	12.07	8.90	9.47	8.41	8.11	**9.80**	**20.4**	**12.07**	**8.11**
Colgate-Palmolive	26.44	21.72	25.31	34.41	48.63	**31.3**	**34.31**	**48.63**	**21.72**
ITC	14.99	17.8	20.59	21.61	18.78	**18.75**	13.75	**21.61**	**14.99**
Mean	**19.7**	**18.46**	**21.2**	**22.1**	**24.9**	**21.25**			

Source: Annual Reports

The above table 5.4 reveals that HUL and Colgate Palmolive have good receivable management system. Both the companies are able to achieve high Debtors' Turnover ratio. The average ratios of both the companies were 30.92 and 31.3 times, which means that both the companies average collection period is approx 12 days, which we can say remarkable. On the hand Dabur India and ITC were also able the maintained their average collection period for less than one month, which we can say reasonable in case of FMCG companies because the key of success in this industry is rotation of working capital. The performance of Procter & Gamble was not significant during the study period although the company improvise its receivable management in this period but failed to reduce the collection period.

Hypothesis testing:

H_o 4: There is no difference between mean debtors' turnover ratios of selected FMCG companies and it is considered that impact of debtors' turnover ratio is same on the entire firm's working capital management.

H_1 4: There is difference between mean debtors' turnover ratio of selected FMCG companies and the effect of debtors' turnover ratio is not same on the entire firm's working capital management.

Debtors Turnover Ratio ANOVA Test Result Details				
Source	*SS*	*df*	*MS*	
Between Sample	119.96	4	29.99	*F = 0.26532*
Within Sample	2260.61	20	113.03	
Total	**2380.56**	**24**		

Interpretation:

The f-ratio value is 0.26532. The p-value is .896753. The result is not significant at $p < .05$. so that H_o is selected and H_1 is rejected.

5.5 Dividend Payout Ratio:

The objective of this ratio is to ascertain, what percentage of net profit after tax has been distributed among shareholders in the form of cash dividend and what percentage is retained in the business. Thus a company which distributes a lower portion of its earnings in the form of dividends will be financially stronger and is likely to expand and grow faster rate. A comparison of this ratio with that of similar companies and over a period of years would reflect on the adequacy or otherwise of the dividend paid to the equity shareholders.

A range of 35% to 55% is measured healthy and suitable from a **dividend** investor's point of view. A company that is likely to distribute roughly half of its earnings
as **dividends** means that the company is well established and a leader in its industry.

$$\textbf{Payout Ratio} = \frac{\text{Total Dividends}}{\text{Net Income}}$$

$$\textbf{Payout Ratio} = \frac{\text{Dividends Per Share}}{\text{EPS}}$$

Table 5.5 Dividend Payout Ratio (in %)

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Companies	Years					Mean	Coef. of Var	Max.	Min.
	2019	2018	2017	2016	2015				
Dabur India	126.3	44.40	39.7	42.12	46.08	59.74	62.43	126.3	39.7
HUL	75.11	74.39	79.53	81.07	75.2	77.1	3.88	81.07	74.39
Procter & Gamble	2.96	19.14	24.06	23.21	23.03	18.55	47.95	24.06	2.96
Colgate-Palmolive	91.17	52.5	47.1	47.17	58.38	59.26	31.1	91.17	47.1
ITC	50.42	51.41	67.05	69.48	52.14	58.1	16.07	69.48	50.42
Mean	69.23	48.45	51.5	52.6	51	54.55			

Source: Annual Reports

There are two aspects of assessing Dividend Payout Ratio, one return on investment of shareholders and other is retention of profit for the liquidity management of company. Here we are considering the retention part of profit to assess the liquidity management of the selected companies. According to the above table 5.5 is has been observed that HUL, Colgate-Palmolive and ITC were paying very high rate of dividend it indicates that these are mature companies and they need not to maintain retained earnings. As far as concern of Dabur India ltd, dividend payout ratios were measured healthy and suitable from 2015 to 2018 but in the year 2019 it was 126.31%, it shows that company distributed dividend out of current year profit and retained earnings. Normally it happens when company has no requirement of surplus funds and it wants to reduce the cost of capital. Dividend Payout Ratios of Procter & Gamble reflects that it pays very low rate of dividend to its shareholder; it means that the company has planes to invest for expansion of business or maintain liquidity to grab short term opportunities or market. The Coefficient of Variations of all the companies were showing that HUL followed a consistent dividend police during the study period.

Hypothesis testing:

H_o 5: There is no difference between mean dividend payout ratios of selected FMCG companies and it is considered that effect of dividend payout ratio is same on the firm's working capital management.

H_1 5: There is difference between mean dividend payout ratios of selected FMCG companies and the effect of dividend payout ratio is not same on the firm's working capital management.

Dividend Payout Ratio ANOVA Test Result Details				
Source	*SS*	*df*	*MS*	
Between Sample	1394.27	4	348.57	*F = 0.44801*
Within Sample	15560.69	20	778.03	
Total	**16955**	**24**	**0**	

Interpretation:

The f-ratio value is 0.26532. The p-value is .896753. The result is not significant at $p < .05$. so that H_o is selected and H_1 is rejected.

6 Conclusion:

This study had been carried out to compare the Liquidity position of **Dabur India, HUL, Procter & Gamble, Colgate-Palmolive and ITC with the help of various ratios**, the current ratio of Dabur India and HUL revealed that both the companies were following same police regarding working capital management, both the companies were maintaning the standard of current ratio recommended by Tondon Committee. There was no difference between mean current ratios of selected FMCG companies and follow the same strategy to meet short term obligations. The current ratios of Colgate-Palmolive reveal that the short-term solvency capicity of company was very poor during the study period, the infolw of funds were less than the outflow of funds. The Quick ratio of Dabur India and HUL were risky in the year of 2015 and 2017 where the actual Quick ratios were lessthan 1:1 ratio during the study period. The Quick ratios of Procter & Gamble were very high during the study period, most of the time it were morethan 2: 1 ratio. The high quick ratio explains that the company maintaining most of its current assets in cash and cash equalants and purchases raw material on cash from its supplyers, that's why the current liabilities were very less. The Coefficient of Variation of Procter & Gamble was 63.61%, it means that there was very high instability in management of quick assets of company. While the Colgate-Palmolive and HUL performed well during the study period, both the companies maintained their Inventory Turnover Ratio above 10 times. The ITC invested more in inventory, Dabur India performed consistently during this period it was found that the Inventory control system of company is very strong. HUL and Colgate Palmolive had good receivable management system. Both the companies were able to achieve high Debtors' Turnover ratio. The performance of Procter & Gamble was not significant during the study period although the company improvise its receivable management in this period but failed to reduce the collection period. Colgate-Palmolive and ITC were paying very high rate of dividend it indicates that these are mature companies and they need not to maintain retained earnings. As far as concern of Dabur India ltd, dividend payout ratios were measured healthy and suitable from 2015 to 2018 but HUL followed a consistent dividend police during the study period.

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International Journal of Management (IJM)
Volume 11, Issue 12, December 2020, pp.3202-3223, Article ID: IJM_11_12_300
Available online at http://iaeme.com/Home/issue/IJM?Volume=11&Issue=12
ISSN Print: 0976-6502 and ISSN Online: 0976-6510
DOI: 10.34218/IJM.11.12.2020.300

CLOUD BASED E-GOVERNMENT MODEL: ANALYSIS AND CHALLENGES

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ABSTRACT

There is growing proof that the Cloud Computing offerings have turn out to be a strategic path for governments' IT paintings with the aid of using the sunrise of the third-millennium. The inevitability of this computing generation has been diagnosed now no longer best with inside the advanced nations just like the UK, USA and Japan, however additionally with inside the growing nations just like the Middle East location and Malaysia, who've released migrations closer to Cloud systems for extra flexible, open, and collaborative public offerings. In India, the cloud-primarily based totally e-authorities task has been deemed as one of the excessive precedence regions for the authorities businesses. In spite of its extra special evolution, numerous governmental cloud- primarily based totally offerings nevertheless going through adoption demanding situations of e- authorities initiatives like technological, human- factors, social, and economic which want to be handled and taken into consideration cautiously with the aid of using any authorities business enterprise taking into account its implementation. While there had been good sized efforts to analyze the e- authorities adoption from the residents' angle the use of exceptional theories and fashions, none have paid good enough interest to the safety troubles. This paper explores the exceptional views of the volume wherein those demanding situations inhibit the reputation and use of cloud computing in Indian public region. In addition to inspecting the impact of those demanding situations at the contributors' protection notion.

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The empirical proof supplied a complete of 220 legitimate responses to our on line questionnaire from Indian residents consisting of IT- workforce from exceptional authorities sectors. Based at the statistics evaluation a few full-size demanding situations had been diagnosed. The consequences can assist the coverage makers with inside the public region to manual a success reputation and adoption of cloud- primarily based totally e-authorities offerings in India.

Key words: Cloud Computing, Cloud systems, e- authorities, IT- workforce, E-Government.

Cite this Article: Neha Paliwal, Bright Keswani, Vani Jain and Devesh Bandil, Cloud based E-Government Model: Analysis and Challenges, *International Journal of Management (IJM)*, 11(12), 2020, pp. 3202-3223.
http://iaeme.com/Home/issue/IJM?Volume=11&Issue=12

1. INTRODUCTION

Development of Information and Communication Technology (ICT) is one of the full-size traits of our generation and, like different innovations, it has an essential affect in phrases of converting and modernization human beings existence to a few volume. Specifically, the evolution of ICT has a dramatic extrude in residents' interplay with their governments, extensively growing their expectancies on this regard [1, 2]. With the inception of e-authorities structures, some of authorities agencies international have moved far from the conventional shape of public administrations to digital forms, as they found out the significance of handing over first-rate and extra green offerings to its residents [3, 4]. However, the in addition usage of e-authorities offerings ended in extra adoption and reputation demanding situations like technological and economic ones [4, 5]. Innovative ICT, along with cloud computing generation can make contributions to triumph over those demanding situations; cloud computing represents a essential extrude with inside the technological surroundings production of the general public region and the manner that governments behavior their commercial enterprise [6, 7]. In the beyond decades, the governmental region targeted predominantly at the conventional on line net- primarily based totally offerings to decorate accountability, transparency, and accessibility to public offerings and facts. Led with the aid of using the pioneering projects in lots of advanced nations along with UK, Japan, USA and EU [8, 9], cloud generation made a success development closer to being the subsequent-technology of e-authority's offerings. The concept is to make use of ubiquitous, particularly scalable, location-impartial IT sources to increase organizational techniques and reinvent the authorities offerings that meet residents' expectancies to enhance collaboration among authorities businesses with extra flexible, open, low- fee and unified computing. However, the cloud- primarily based totally e-authorities taken into consideration as a profound extrude inside governments additionally represents a person- centric offerings platform aiming to growth residents' participation. In current years, the general public region with inside the growing nations, in particular, the Middle East have commenced gearing closer to cloud computing to gain an expanded stage of performance and overall performance whilst presenting fee-powerful outcome [10]. However, some of those governments are nevertheless with inside the preliminary ranges of that manner. The states of India , the with inside the coronary heart of Middle East location, is with inside the manner of entire migration to Cloud-Government. India realized the critical position of the Cloud Computing with inside the e-authorities context and released the primary "National Cloud Platform", designed to gain persistent upgrades and increase in the e- authorities programs [11]. In those days, some of authorities entities and ministries follow cloud-primarily based totally answers to offer progressed public offerings to their residents; however, a excessive-percent of Indian nationals do now no longer but use cloud-primarily based totally e- authorities offerings and nevertheless, depend upon paper printouts in their respectable transactions. Accordingly, the offerings supplied primarily based totally at the cloud computing generation just like the "Issuing Certificate of Non- Criminal Record" aren't exploited efficiently. A quantity of theories and fashions of IS/IT reputation, like Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM) and, the modern advanced version, the second one model of the Unified Theory of Acceptance and Use of Technology (UTAUT2), had been in large part carried out to observe the people' reluctance or low adoption of recent e-authorities offerings [12]. However, those theoretical fashions, consisting of the UTAUT2 itself, are criticized for now no longer thinking about the constructs depicting the particular views of e- authorities (e.g. protection). This paper takes a step closer to answering the query: "Do the boundaries and demanding situations of e-authorities adoption affect using cloud-primarily based totally e-authorities offerings from the Indian residents' and authorities' angle?". The findings of this studies demonstrated that a few e-authorities demanding situations nevertheless affect the reputation of cloud-primarily based totally public offerings just like the lack of expertise and protection. In addition to validating a number of the safety issues associated with this studies context, subsequently those may be considered while formulating a brand new theoretical version.

2. CHALLENGES OF E-GOVERNMENT

E-authorities projects intention to elevate the extent of governments' overall performance whilst imparting the residents with upgraded public offerings. However, some of authors imply that exceptional sorts of boundaries are confronted with the aid of using authorities entities which hindered the attaining of e-authorities promised dreams and degraded its a success adoption [8, 13]. Therefore, the general public region has the duty to triumph over such hard hurdles. Despite the governments' efforts on this regard, the achievement of e- authorities projects is contingent upon residents' willingness to apply and be given the e-authorities offerings using new ICT [3]. Notably, Security is one of the full-size reasons of hesitation approximately e- authorities offerings because of lingering perceived protection issues [14]. The maximum encountered demanding situations of e- authorities reputation and adoption may be grouped into classes as mentioned in Table 1.

2.1 Technological Challenges

The e-authorities projects deployment become for a long term limited with the aid of using technological troubles. For instance, loss of protection is a essential impediment in enforcing e-authorities offerings in step with residents' issues [15]. This phase illustrates the primary boundaries face e-authorities from the technical thing.

2.2 IT Infrastructure

Although the taking place of IT fee, enough IT infrastructure continues to be taken into consideration as one of the maximum not unusual place boundaries to e-authorities offerings, additionally affect citizen adoption of such offerings [16, 17]. It composed of networks along with LAN (nearby place community), WAN community (Extranet, Intranet and Internet), different technical components, databases and running structures. Creating new verbal exchange channels to supply and percentage the e-authorities facts and offerings calls for good enough internetworking [17, 18]. Similarly, Ebrahim and Irani (2005) asserted the importance of internetworking potential as a base for IS integration throughout the general public region. Also, IT infrastructure might be skilled with the aid of using loss of software program and hardware. In many growing nations, the bad IT infrastructure frequently prohibits the a success implementation of e-authorities. Consequently, governments require helping a robust IT infrastructure to allow the residents to gain from e- authorities offerings.

2.3 Security

Security refers back to the safety of structures, facts, and statistics in opposition to intentional or unintended disclosure, copying and alteration because of unauthorized get right of entry to [19]. A quantity of research have diagnosed protection as a full-size barrier affect the goal to apply the e- authorities offerings throughout the world, and this is from each governments' and residents' angle [15-17]. While there may be a consensus some of the studies network that protection could have technical or non-technical factors, the non-technical troubles have extra affect with inside the growing nations. The Perceived facts protection may be described as "the subjective opportunity with which customers trust that their private facts will now no longer be considered, saved or manipulated at some point of transit or garage with the aid of using beside the point parties, in a way steady with their assured expectancies" [20]. So, perceived protection is an critical detail to construct the accept as true with among the authorities and its residents. As said with the aid of using Ndou (2004), governments around the world want to stable the transactions among the authorities agencies and people. 21.three.

2.4 Availability

The improvement any Information System IS like e-authorities may want to bring about many demanding situations to the inner and outside stakeholders (e.g. availability and accessibility) [17, 21, 22]. It is critical to differentiate among those terminologies. Availability refers back to the quantity of e-offerings which are to be had for the residents 24/7 [17]. As illustrated with the aid of using Criado et al. (2003), the critical guarantees of e- authority's initiatives may be completed with the aid of using an integration of numerous elements, for example, accessibility and availability [23]. Moreover, availability improves residents' pleasure with of e- authority's machine because of its pivotal affect at the provider quality [24]. By contrast, the shortage of those essential elements might result in failure of e-authorities efforts. While the above-stated dialogue factors out the supply as a rating trendy for the achievement and adoption of e-authorities, accessibility to e- authority's offerings is likewise important.

2.5 Accessibility

Accessibility time period is used to explain the approaches wherein residents' achieve on line authority's offerings and facts thru of a couple of e-channels [16, 22]. The presence of such channels makes the provider on hand to all sorts of residents in spite of religion, house vicinity or maybe disabilities. Alomari et al. (2012) proposed the provider accessibility as an essential predictor to set up "citizen-centric" e- authorities offerings. Thus, the authorities businesses ought to make certain the accessibility and availability in their net offerings to all stakeholders from exceptional places across the clock. For example, governments may want to release loose Wi-Fi provider inside a country wide approach to inspire the residents' participation in e-authorities offerings.

2.6 Website Layout

Recently, the governments' web sites have emerged as the primary gateways for handing over public offerings to residents [22, 25]. Research on e- authorities has located that web site design is a full-size aspect affected citizen's willingness to just accept e-authorities offerings [22]. Standardized layout and well-prepared content material growth the customers' goal to apply e-authorities. In addition, express protection rules, instructions, and password suggestions ought to be ensured with inside the layout of internet site; due that residents' use of e-authorities is a questionable rely with out a protection assure [26].

2.7 Human Aspects

"Once the human beings have the infrastructure to head on line, they want the focus, competencies and on line content material to inspire their get right of entry to" [27] The research indicates that loss of each focus and IT-competencies are the 2 dominant human-factors below the boundaries to e-authorities projects [18].

2.8 Lack of Focus

In preferred, residents have restrained focus approximately e-authorities offerings and its advantages [28]. It has been located that the lack of expertise is one of the barriers to a success adoption of E-authorities [25, 29]. Awareness refers back to the person's expertise of others' sports, which yields to a context for his personal sports [25]. Lack of focus is a foundation for low charges of residents' participation and failure of e-authorities initiatives [24]. Therefore, governments ought to provoke appealing focus campaigns to sell new e- authorities offerings and to gain its a success diffusion and implementation.

2.9 ICT Competencies

Two sorts of competencies are required to apply e- authorities structures with the aid of using residents. These are: IT literacy and Information protection literacy. The dearth of those competencies is a important project to e-authorities projects, specifically in growing nations [30]. IT-Literacy used to signify the marginalized those who are incapable to apply ICT because of the shortage of pc information and training [17]. While the facts protection literacy approach the shortage of simple information approximately the stable on line practices [31]. In fact, the governments had to offer their residents with the critical pc, protection and net competencies to enhance their participation in e- authorities. In this regard, Almarabeh and AbuAli (2010) emphasized the critical significance of residents' training, because it prevents the upward push of companies in the society "facts bad" and "facts rich".

2.10 Social Challenges

Social troubles to the adoption of e-authorities aren't a technological barrier, however as a substitute hinge on social implications of recent IT. The social thing consists of some of demanding situations like income, language, tradition, training and virtual divide. In recognize to this observe, tradition might be clarified.

2.11 Culture

The powerful implementation and adoption of e- Government offerings want to triumph over the cultural demanding situations [22, 32]. Culture may be diagnosed with the aid of using various factors along with human beings values, ideals, behaviour and religion. Also, normally it could be categorized into 3 types: organisational tradition, country wide tradition, and protection tradition. In the context of this observe, It is essential to make clear precisely what is supposed with the aid of using "protection tradition" which refers back to the socio-behaviour and customs of a particular society, that have an effect on their protection practices [33]. Resistance to extrude with the aid of using residents can also additionally lead ultimately to poor effects concerning e- authorities participation [32]. Therefore, it is required from the governments to enhance the social existence and set up a information-primarily based totally society so that you can extrude IT-tradition in their residents.

• ICT skills	• short of IT skills amongst usersof e-government (i.e. citizens, employees, IT staff) • short of baseline knowledge associated to the secure online practices	**[25, 31]**
Social		
• Culture	• Religious and tribal beliefs • Language problems • Change resistance	**[32, 35]**
Financial		
• Lack of budget / high cost	• High maintenance andoperational cost • High budget for securitysolutions	**[15, 16]**

Examples Ref. Technological IT infrastructure In sufficient networking potential Inadequate integration throughout structures Poorly updated hardware and software program incompatibility and complexity of the present structures [16, 30] Security lack of transactions' [15-17, protection lack of trust in online and 25, 30] authorities e-offerings loss of protection hardware with inside the public region Availability Inability to supply offerings and facts upon request Slow reaction to residents expectancies ,making unsuccessful transport of the e-offerings. [24, 30] Accessibility Difficulty to get right of entry to the machine with the aid of using the human beings with disabilities Internet insurance is restrained [30, 32] Website layout restrained languages to gift [22, 24, the website content perceived ease of use 25] region context. Furthermore, the volume to which those demanding situations are pertinent to the perceived protection of cloud-primarily based totally e-authorities offerings. Consequently, there may be a concurrent want to benefit an empirical exam for the affect of such demanding situations at the reputation and protection of cloud computing offerings and programs with inside the public region. In this paper, an internet survey become carried out to gain this observe intention.

3. CLOUD COMPUTING

Cloud Computing has turn out to be a full-size milestone with inside the improvement of Information Systems (IS) and a salient IT approach for governments, due presenting particularly-scalable computing sources. According to the definition supplied with the aid of using National Institute of Standards and Technology (NIST), Cloud computing is " a version for allowing ubiquitous, handy, on-call for community get right of entry to a shared pool of configurable computing sources that may be swiftly provisioned and launched with minimum control attempt or provider issuer interplay" [36]. Cloud Computing is taken into consideration as one of the maximum promising ITs nowadays, inherently has awesome traits consist of huge community get right of entry to, on- call for self-provider, speedy elasticity, pooled sources, measured provider (Fig 1) [36]. Wang et al. (2016) use the time period 'cloud computing' to seek advice from "the transport of computing as a provider instead of a product" [37]. This provider is supplied to the authorities businesses, commercial enterprise, and people on 3 exceptional fashions consisting of Infrastructure as a Service (IaaS), Platform as Service (PaaS), and Software as Service (SaaS). Also, primarily based totally at the scope of utilization, cloud computing may be grouped into 4 deployment fashions, which might be: personal cloud, hybrid cloud, network cloud, and public cloud [36, 37]. Security issues turn out to be essential at some point of the transport of the offerings and affect person's reputation and use of such offerings [38].

Figure 1 NIST definition of Cloud Computing [36]

3.1 Cloud Computing with inside the E-authorities Context

Evidence from preceding studies indicates that cloud generation become followed as a singular channel for the transport of public offerings [39], wherein full-size upgrades with inside the authorities region overall performance, additionally growing progressive public offerings had been detected throughout numerous contexts, international [40]. Around the globe, governments have started to supply numerous offerings primarily based totally at the cloud systems to decorate the offerings quality, recognize performance, lessen fee [41, 42]. Harnessing Cloud Computing (CC) to supply authorities offerings affords some of advantages (e.g. dynamic scalability, accountability, dispensed garage, protection control, and inexperienced IT) [43, 44]. However, there may be a excessive deal of risk, each tangible risk (e.g. availability and infrastructure) and intangible risk (e.g. protection) are related to cloud-primarily based totally e-authorities offerings in conjunction with advantages of the cloud programs [7]. Security issues and applicable troubles are the primary reassets of the risk [45]. Therefore, its required to deal with and perceive such issues for cloud-primarily based totally e-authorities offerings in conjunction with different sorts of dangers. Consequently, governments may have the capacity to risk-control of the cloud systems, that's taken into consideration as the primary determinant of CC achievement and reputation.

4. ACCEPTANCE AND ADOPTION OF NEW TECHNOLOGY

Theories and Models Understanding character-stage of IT reputation is one of the well-installed streams with inside the place of facts machine (IS) studies [46, 47]. Thus a long way exceptional competing fashions and theories had been advanced to apprehend the customers' reputation behaviour of IT/IS. Among those fashions and theories, the TAM, the TPB, the Theory of Reasoned Action (TRA) and so on [48]. There become a want to create a complete version that offers a extra entire photograph of the person's IT reputation manner than any preceding theoretical fashions were capable of do. Venkatesh et al. (2003) advanced the UTAUT version on the idea of integration of 8 dominant theoretical fashions with inside the place of generation reputation (Fig 2) [48]. The UTAUT version consists of 4 middle antecedents (i.e. overall performance expectancy, attempt expectancy, social affect, and facilitating conditions) of behavioural goal and real use behaviour. While gender, revel in, age, and voluntariness had been built because the 4 moderators to the primary relationships (Fig three) [48].

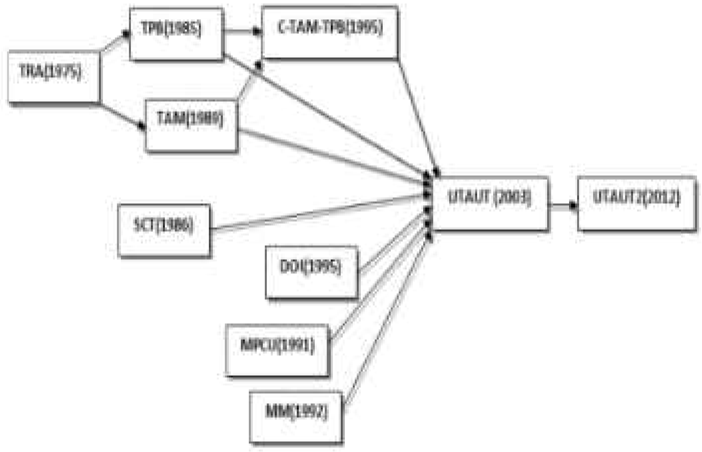

Figure 2 Development of Unified Theory of Acceptance and Use of Technology Model .

Since its inception, the relationships of the UTAUT version had been considerably investigated and showed with inside the context of e-authorities offerings [5, 12, 49]. Thus, the UTAUT is appropriate to apprehend the reputation behaviour of the cloud offerings with inside the e-authorities context. Venkatesh et al. (2012) proposed the UTAUT2 version as an extension to UTAUT version with inside the context client of generation reputation and use [50]. Since residents are the primary customers of e-authorities cloud- primarily based totally offerings, the UTAUT2 can serve the targets of this observe appropriately [51]. Furthermore, in comparison to the unique theoretical fashions, UTAUT2 it could account for a excessive percent with recognize to defined variance (R2) as much as 74% in behavioural goal (BI) to apply IT, that's extra powerful than any acknowledged character version from the beyond. However, the unified concept (UTAUT/UTAUT2) have a tendency to be criticized because it does now no longer think about the accept as true with and protection issues which constitute of the particular constructs applicable to e-authorities context [4].

Figure 3 UTAUT [48]

5. RESEARCH METHODOLOGY

In this observe, quantitative studies method using on line questionnaire survey become undertaken to gather the number one statistics and to satisfy the targets of the studies. A survey questionnaire become decided on as it's miles much less time-consuming, inexpensive, the anonymity of respondents may be assured, and it has the capacity to offer a statistics influx from a huge pattern with a minimal stage of researcher bias [52]. A pre-take a look at become carried out after the questionnaire first of all designed with the aid of using a number of the Indian public, PhD researchers, and educational workforce. This is essential to decorate the questions and test the comprehension of contributors earlier than the real survey is dispensed [53]. This ended in a few adjustments to the wording of few inquiries to make it as express as possible. The questionnaire become applied to decide the energy of Indian residents' perceptions of demanding situations going through the reputation of cloud-primarily based totally e-authorities offerings and the affect of those demanding situations at the perceived protection. In addition, the identical demanding situations had been tested from the angle of offerings providers. IT-workforce on this observe representing a full-size pillar of the general public region so it's miles important to discover the perspectives of IT-professionals concerning this issue. As cloud computing CC is an nearly new idea with inside the growing nations, the researchers supplied a definition of this progressive IT on the primary web page of the net survey. The on line questionnaire hyperlink become marketed to the focused pattern of the observe the use of exceptional verbal exchange channels (e.g. social media companies, private emails and universities mailing lists). In preferred, the studies pattern may be categorized as Indian residents who're net customers and feature a essential expertise of e- authorities offerings and CC. The 2nd pattern of IT-personnel along with net designers, software program/machine engineers, and programmers, respondents had been approached for responding thru their private contacts (i.e. emails) in the event that they had private revel in of the e-authorities offerings. The survey includes 4 sections. These are: (1) the respondents' preferred facts (demographic); (2) the respondents' perceptions concerning boundaries and demanding situations going through reputation of cloud-primarily based totally authorities offerings; (three) the respondents' perceptions concerning the safety of cloud-primarily based totally public offerings; (four) the respondents' revel in e- authorities and net use. The survey become carried out primarily based totally at the University of Bradford human studies ethics.

6. DATA ANALYSIS AND FINDINGS

The subsequent sections spotlight the important thing findings and gift indicators to the solution of the studies query drawing at the survey findings. An assessment of the net survey questionnaire become supplied with inside the first phase. Then, an example of the consequences of the observe query with extra info become supplied with inside the following 3 sections.

7. OVERVIEW OF THE ONLINE SURVEY QUESTIONNAIRE

As delineated above, the net questionnaire is includes 4 components which become supplied in Arabic for less difficult and higher expertise of its questions as Arabic is the local spoken language for residents in India However, the English survey questionnaire become additionally constructed for the motive of the studies. The participation with inside the questionnaire become absolutely voluntarily and knowledgeable consent become secured thru the primary query on the quilt facts sheet indicating that consent is express with the aid of using the "yes" solution to the query. The survey questionnaire become to be had to be accessed thru the net surveys' internet site eSurveyCreator.com. It become open "on line" for one month to all Indians' human beings across the world. By the give up of that time, 243 responses had been received. The pattern of this observe includes classes IT workforce and Indian residents. fifty six contributors had been personnel from exceptional authorities businesses in India whilst 187 had been regular Indian residents. However, 23 residents' responses had been discarded due to wrong or lacking solutions. In consequent, a complete of 220 responses had been legitimate for the manner of statistics evaluation, for figuring out the volume wherein the e-authorities demanding situations affect the reputation of cloud offerings with inside the public region from Indian's human beings angle and its effect at the perceived protection. People who understood the cloud offerings (e.g. IT-workforce with inside the public region, ICT region personnel, college students) taken into consideration as a certified pattern. The motive at the back of this feature is that they may be some of the adult's populace whom using net turn out to be a critical a part of their each day existence and has the critical information approximately Cloud Computing offerings. In addition to IT-workforce revel in growing and imparting such offerings. Moreover, because the improvement of Cloud-primarily based totally offerings in India is with inside the preliminary stage, the respondents might be the primary cap potential adopters. Thus, understanding their perceptions and attitudes is essential to enhancing the cloud-primarily based totally e-authorities offerings. The evaluation consequences are certain beneathneath.

8. INFORMATION (DEMOGRAPHIC)

The demographic profile of the of the 2 awesome samples (i.e. Indian residents' and IT-workforce) is summarized in Table 2 and Table three. In this survey, best decided on profiles which might be gender, age, training stage, residency, net information stage, protection focus stage had been indexed with the aid of using the authors. Data supplied proof that approximately thirds (66 %) of respondents had been male and one third (34%) female. The bias closer to male is attributable to that India is one of the growing nations that touted as a male-ruled society wherein the bulk of female's existence is on the authority and mercy their male's relatives; this may affect exceptional factors along with undertaking authorities transactions and employment with inside the public region. In phrases of age, the findings found out that the biggest percent of the overall populace pattern had been elderly especially among (21-forty) years old, steady with the biggest majority of Indian net customers. Most of the respondents preserve a bachelor diploma as training qualification stage which is available in settlement with the overall distribution of net customers in India seventy eight% of residents' respondents are from India or different growing nations, whilst 22% are from growing nations just like the United Kingdom and the USA. In preferred, the residents' respondents had been self-diagnosed as having medium net information and amateur to medium protection focus. By evaluation, the primary distinction with inside the IT-workforce pattern become self-identity as having a pretty superior net information and protection focus.

Table 2 General Information (Demographic) for IT-Staff in Public region

Attributes	**Percentage(%)**
Gender	
M	69%
F	31%
Age	
20-30	41%
30-40	54%
40-50	5%
Education Qualification	
Diploma	25%
Bachelor	66%
Postgraduate	9%

Nationality Country	
India or developing countries	100%
Internet Knowledge	
Advanced	100%
Security Awareness	
Median	73%
Advanced	27%

Table 3 General Information (Demographic) for Indian Citizens

Attributes	**Percentage(%)**
Gender	
M	66%
F	34%
Age	
18-20	3%
21-30	68%
31-40	16%
41-50	11%
50+	2%
Qualification Level	
Secondary School or below	7%
Diploma	8%
Bachelor	63%
Postgraduate	22%
Nationality Country	
India or developing countries	78%
Developed countries	22%
Internet Knowledge Level	
Beginner	2%
Medium	60%
Advanced	38%
Security Awareness Level	
Beginner	57%
Medium	32%
Advanced	11%

This assessment of the overall demographic profile of the contributors will assist with inside the consequences' interpretation and offer the solution to the studies query with inside the subsequent sections.

9. CHALLENGES TO CLOUD-BASED E- GOVERNMENT SERVICES ACCEPTANCE

Interpretation of the observe Question According to the consequences, there are some of demanding situations and boundaries of e-authorities reputation and adoption, which might be: technological, human- factors, social, and economic which are nevertheless impede the reputation and use of cloud computing offerings in Indian public region from the contributors' angle (Fig four). A quantity of authors indicated that the diffusion of progressive technologies (e.g. e- authorities offerings) into residents and societies isn't with out demanding situations. However, the authorities region faces boundaries from residents who assume better requirements of the general public offerings (i.e. governmental) than from offerings of the personal region. Nine boundaries had been diagnosed to reputation of e-authorities offerings with the aid of using the researchers primarily based totally on literature evaluate. In consequent, respondents had been requested for comparing their notion of the significance stage for every barrier with the aid of using thinking about the demanding situations if it does now no longer constitute one (zero), essential one (1), or very essential one (2).

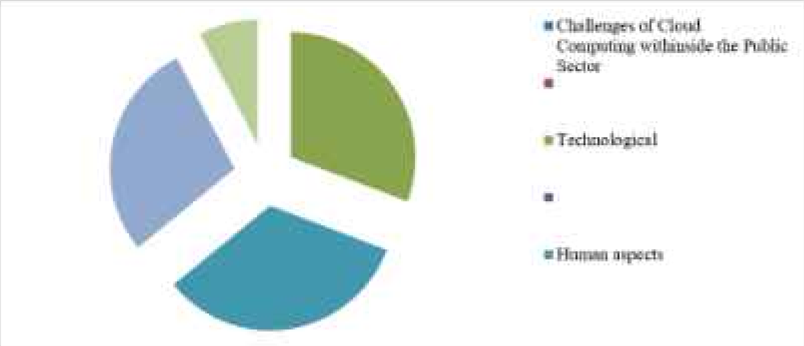

Figure 4 Challenges of Cloud Computing with inside the Public Sector

9.1 Citizens' Perceptions Regarding Barriers of Cloud-Based E-Government offerings

Tables four, five indicates all of the 9 boundaries had been selected as both very essential or essential barrier and no one of the 9 become selected as now no longer a project from all contributors.

Table 4 Very Important Barriers to Accept Cloud- Based Services from Citizens' Perspectives

S. No	Obstruction	Major obstructions Percent %
1	IT infrastructure	50%
2	Security	80%
3	Availability	30%
4	Accessibility	40%
5	Website design	42%
6	Lack of awareness	80%
7	IT skills	30%
8	Culture	70%
9	Lack of budget / high cost	20%

Table 5 Important Barriers to Accept Cloud-Based Services from Citizens' Perspectives

S.No	Obstructions	Important obstructions
		Percent %
1	IT infrastructure	50%
2	Security	15%
3	Availability	65%
4	Accessibility	60%
5	Website design	49%
6	Lack of awareness	15%
7	IT skills	60%
8	Culture	30%
9	Lack of budget /high cost	65%

9.2 IT-Employees' Perceptions Regarding Barriers of Cloud-Based E-Government offerings

The evaluation of the IT-personnel' perspective approximately the boundaries at the 2 perceptions degrees is summarized in Tables 6,7. Again, Lack of focus and protection are the 2 maximum famous demanding situations as illustrated with inside the subsequent subsection.

Table 6 Very Important Barriers to Accept Cloud-Based Services from IT-Staff Perspectives

S.No	Obstacle	Important obstacle
		Percent %
1	IT infrastructure	15%
2	Security	20%
3	Availability	40%
4	Accessibility	35%
5	Website design	30%
6	Lack of awareness	7%
7	IT skills	60%
8	Culture	30%
9	Lack of budget /high cost	60%

9.3 Respondents' Perceptions Regarding the "Very Important" obstacle

Inspecting the very best boundaries that residents and IT personnel perceived as being "very essential" it could be observed that the lack of expertise approximately the cloud-primarily based totally offerings and its advantages with inside the e-authorities context become famous at (87.eight%) and (94.6%), respectively. This suggests that promotional applications are probable to be an essential aspect for the achievement of e-authorities projects [54]. For any modern generation (e.g. cloud offerings for the general public region) there some of steps that might assist in convincing and inspiring human beings to just accept it first then use it. Research into adoption and use of cloud-primarily based totally offerings indicates that potential customers required to understand that it is simple and handy to apply, useful, and it provide a relative benefit in comparison to the modern-day approaches of appearing the things (shin 2013). For residents and different stakeholders to increase such perceptions earlier than acquiring good sized revel in, promotional sports and marketing and marketing will make contributions extensively to perform this intention. Security issues of facts and offerings supplied with the aid of using e-authorities structures come as a 2nd "very essential" barrier with a recognition of (86.6%) and (82.1%). There is a consensus amongst researchers that it's miles a severe technical barrier and it's also a well-documented angle for the implementation of e-authorities offerings international [14, 26, 55].

9.4 Comparison of Barriers Perceptions

This phase targets to examine the primary standpoints of Indian residents and IT-personnel concerning the boundaries to just accept and use of cloud- primarily based totally e-authorities offerings. It is obvious from the preceding sub-sections that there are some of perceived demanding situations which are not unusual place among each. Firstly, for each of pattern classes, the lack of expertise approximately the cloud-primarily based totally public offerings and its advantages as "very essential" project and ranked it because the maximum full-size one with inside the listing. This consensus among each pattern classes suggests that it's miles a important impediment to be resolved, thinking of a excessive-stage of precedence. Next, each of pattern populations agreed that Security of public offerings become diagnosed as the second one essential barrier with inside the listing of "very essential". At last, there has been a distinction with inside the subsequent maximum full-size "very essential" project to the cloud-primarily based totally e-authorities reputation, this displays the people' angle of pattern classes. For the IT-workforce in the authorities businesses, the weak spot of the IT infrastructure become considered as the subsequent ranked barrier as that allow them to offer powerful public offerings. With recognize to the regular residents' views, society tradition affects the a success use of progressive authorities offerings. Table:8 provides a précis of the not unusual place and awesome boundaries with their rank in step with their recognition.

Table 8 Common and Different obstacles between the Sample Categories

S.No	Obstacles	Percentage	
		IT workers	Citizens
1	Lack of awareness	90%	84%
2	Security	76%	80%
3	IT infrastructure	75%	46%
4	Culture	70%	65%

9.5 Security Perceptions of Cloud-Based E- Government Services

Seven of the e-authorities boundaries with inside the survey have an effect on the safety perceptions of the respondents (i.e. residents and IT personnel) closer to the reputation and use of cloud offerings. It is apparent from Table nine that there may be settlement at the rating of those boundaries from the viewpoints of the pattern each side. These had been ranked primarily based totally at the responses percent which both suggests strongly agree or agree.

Table 9 Perceived Security Barriers to Accept Cloud-Based Services in the E-Government

Rank	Obstacles	Agreement	
		Citizens	IT employees
1	High level of security concerns regarding "cloud-based e-government" services are inspired by *non-technical* aspects (e.g. culture and awareness)	75%	85%
2	Social relations and culture have a significant influence on the security of "cloud- based e-government" services	70%	80%
3	Lack of security awareness is one of the main determinants of the user's perception regarding the security of "cloud-based e-government" services.	65%	78%
4	Perceived security is a significant resource for public users' trust of "cloud-based e-government" services.	60%	75%
5	The design of the "cloud- based e-government" website influence the user perception of its security	55%	60%
6	There is a lack of security guidelines for using "cloud-based e-government" services, on the government website, social media or other media channels.	50%	60%
7	There is a lack of regulations and policies to use cloud public services.	40%	53%

For the boundaries that the 2 observe samples perceived as a protection project related to reputation and adoption of cloud-primarily based totally e- authorities, it's miles clean that the non-technical factors along with tradition and focus were given the very best rank at (83.6%) and (90.3%) respectively (Fig five,6).Thus, the primary interest ought to be paid to this regions with the aid of using the offerings issuer(i.e. authorities).

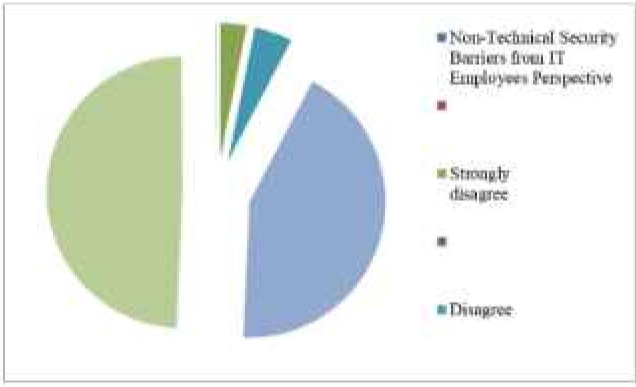

Figure 5 Non-Technical Security Barriers from Citizens Perspective

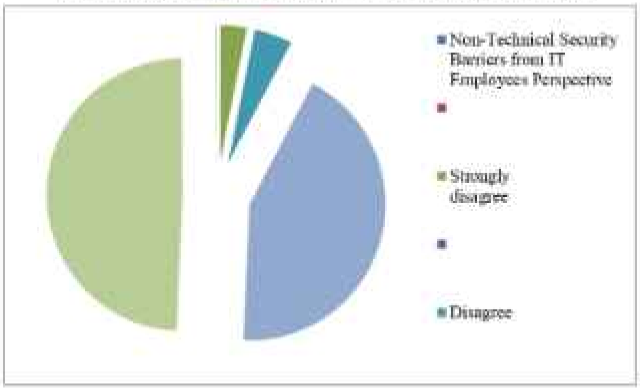

Figure 6 Non-Technical Security Barriers from IT Employees Perspective

The implementation of progressive e-authorities offerings faces the project of cultural inertia which required to be overcome, specifically in growing nations [35]. The cultural troubles have a exceptional affect among advanced and growing nations. To supply an example, the survey findings found out that extra than (64%) of the residents' pattern who stay in advanced nations choose to behavior on line transactions in comparison to approximately (35%) of these in India and different growing nations (Fig 7). The solutions indicated that the primary motive is cultural differences, one of the respondents who stay in India said: " I heard approximately many those who their cash become stolen while they are trying to shop for on line" whilst a 2nd commented: " digital transactions isn't assured I choose to touch the alternative men and women head to head and feature a risk of dialogue". Furthermore, tradition continues to be deemed to be as one of the boundaries in handling the perceived protection of cloud-primarily based totally e-authorities offerings (81.1%) and (89.2%) respectively. Accordingly, it's miles vital to teach and educate regular residents to construct an progressed tradition concerning the advantages, significance, protection of on line transactions, specifically cloud offerings for authorities region the use of some of promotional approaches.

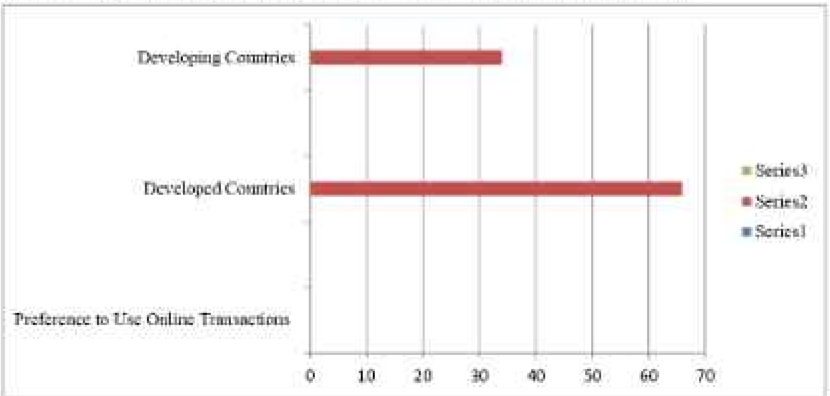

Figure 7 Preference to Use Online Transactions

10. CONCLUSION AND FUTURE WORK

E-authorities structures primarily based totally on cloud generation are the modern-day path in on line offerings and facts around the world. Government businesses, specifically the ones in growing nations who aspire to decorate e- authorities, can seek advice from those observe findings to sell and layout their offerings. For instance, they are able to layout numerous promotional programmes and sports for numerous customers. It is usually recommended to make investments cash in a vast and appealing focus marketing campaign to inspire residents efficiently to just accept and use cloud offerings. Additionally, those who use cloud- offerings to behavior governmental transactions might have a reduction in phrases of the transactions fees. This will assist to elevate the utilization charges, especially for people who nevertheless refuse using the e-authorities offerings, in preferred, attributable to some of issues along with protection and accept as true with. The predominant intention of this paper is to consciousness at the e-authorities demanding situations and the way it affects the reputation of the cloud-primarily based totally offerings in the public region context and to what volume those demanding situations have an effect on the perceived protection. The findings of this studies attempt had been primarily based totally at the responses IT workforce with inside the public region and Indian residents to the studies query. This become carried out for helping the manner of decision- making with the aid of using the stakeholders of e-authorities, and to enhance the effects of the cloud-primarily based totally e- authorities offerings supplied for the Indian society. The demanding situations had been diagnosed primarily based totally on a applicable literature evaluate and tested thru wearing out a survey. The findings of the survey showed that protection issues play a full-size position with inside the reputation and use of cloud offerings with inside the authorities context (2nd rank). In addition, it found out that the non-technical factors have a amazing significance some of the different protection troubles with inside the observe context. In consequent, thinking about those demanding situations and incorporating them with IT/IS reputation version is wanted for destiny studies paintings. Owing to its excessive explanatory electricity evaluating to the preceding theories and fashions of generation reputation and additionally its suitability to e-authorities cloud-primarily based totally offerings, the UTAUT2 version might be advanced choice imparting the bottom for the destiny proposed theoretical version addressing the reputation of such offerings.

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International Journal of Management (IJM)
Volume 11, Issue 12, December 2020, pp.3224-3232, Article ID: IJM_11_12_301
Available online at http://iaeme.com/Home/issue/IJM?Volume=11&Issue=12
ISSN Print: 0976-6502 and ISSN Online: 0976-6510
DOI: 10.34218/IJM.11.12.2020.301

E-GOVERNANCE PHASED SECURITY MODEL

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ABSTRACT

E-Governance is basically the use of internet expertise as a tool for exchanging information, providing services and transacting with people, businesses and other areas of government. E-Governance provides a sound approach to reinforce overall governance. It not only perk up accountability, intelligibility and effectiveness of government processes, but also smooth the progress of sustainability and inclusive growth. E-Governance also provides an instrument of straight delivery of public services to the trivial segments of the society in the remotest corners, without having to deal with mediators. This paper deals with analysis of the existing models and find out threats at each level and develop a new model to overcome these threats.

Key words: e-governance, security service, authentication, e-services, threats.

Cite this Article: Vani Jain, Devesh Bandil, Bright Keswani and Neha Paliwal, E-Governance Phased Security Model, *International Journal of Management (IJM)*, 11(12), 2020, pp. 3224-3232.
http://iaeme.com/Home/issue/IJM?Volume=11&Issue=12

1. INTRODUCTION

The idea of e-government started with the introduction of government websites in the early 1990s. The structure of government is flat, fixed hierarchical regulated, whereas web is dynamic, smooth and unregulated. Government's function is like enormous, where one hand does not know what the right hand is doing. With the advancement of Information Technology and increased reliance on the internet as a transaction medium to develop government websites into a highly potential channel for supporting a frontend and backend applications. E-government security is a key dilemma for every E-government systems. E-Government security models are used in the implementing and developing e-government security systems. The diverse security models are applied in different countries due to the deference situation of the countries. The five different models of e-governance, which can be applied for e-governance security system.

These models are:

Table 1

MODELS	DESCRIPTION
Broadcasting model	• Broadcasting model is a mass diffusion of government information which is already available in the public sphere using ICTs. • This raises responsiveness among the society about ongoing government processes and government services that are available to them and how they can advantage from them.
Comparative Analysis Model	• This model is least-used but a high potential e-governance model for developing countries. This model is used to authorize people by comparing good governance with the bad governance and then analyze, the reasons and people behind the bad governance, and how the condition can be improved. • The model is based on using vast capacity of ICT and social media to review the information given with comparable information available in the public or private sector.
Critical flow model	• The model is based on dissemination of information of 'critical' value to targeted viewers using ICTs and other tools. • Those who reveal such kind of information include upright officials and workers, whistleblowers, affected parties and those who were themselves involved in bad governance practices but have now changed their minds or may wish to deal such information for soft punishments.

E-Advocacy Model	• This is one of the most often used Digital Governance model and that come to the aid of the global civil society to impact on global decision-making processes. • The model is based on setting-up a planned, directed flow of information to build strong practical allies to complement actions of the real world. • Virtual communities are formed which share similar values and concerns, and these communities in turn link up with or support real-life groups/ activities for concerted action. • The potency of this model is in its multiplicity of the virtual community, and the ideas, expertise and resources accumulated through this virtual form of networking. • The model is able to assemble and influence human resources and information beyond geographical, institutional and bureaucratic barriers, and use it for intensive action.
Interactive Service model	• It is a consolidation of the other digital governance models and opens up potential for one-to-one and self-serviced participation of individuals in government processes. • The involvement is direct and not through representatives. • This model brings better objectivity and simplicity in decision-making processes, and provides a better feeling of involvement and empowerment. • Under this model, the diverse services offered by the Government become directly available to its citizens in an interactive Government to Consumer to Government (G2C2G) channel in various aspects of governance.

2. THE PHASES OF E-GOVERNMENT SECURITY MODEL

The phased structure of a model prevents our government from various categories of threats related to a single or multiple e-services. Each phase of a model will lessen the group of threats related to e-services. The five phases were selected as a part of any strong security programme. The phases are: the technical phase, the strategical phase, the proficiency phase, the operational and management phase, and the decision phase. The phases were constructed from the bottom to the top based on the importance of each level, the frequency of their implementation in government, and how they complement each other.

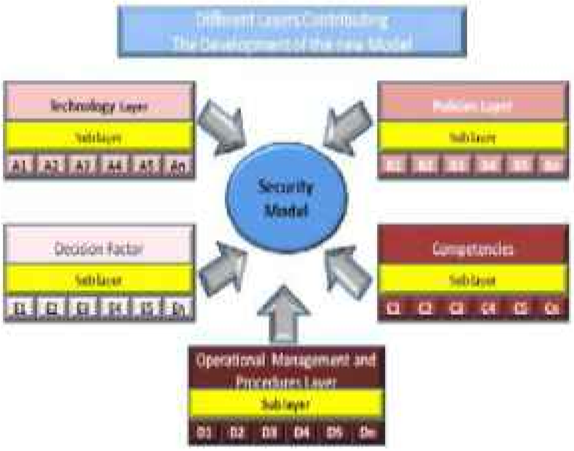

Figure 1 The five phases structuring the new security model

The concept behind this model is to analyze the security needs and requirements for any e-enabled government in order to permit or not to permit the exchange of information between each other in e-government. The new abstract model is expressed as-

Figure 2 Pyramid phased model

In this model every phase is sub divided into multiple sub phases to make the structure more understandable and reliable. The splitting of phases into sub phases gives the model a flexibility to expand it into n-number of cells based on the needs of the government. The idea of having x-number of phases with y-numbers of cells in each phase and the combination of these phases with sub-phases provide a enhanced level of security that what we considers a "new secured model" or a "new secured approach".

The Extended Multi Phased Security Model						
Security Levels	**Sub Layers/Cells**					
Technical Layer						
Strategical Layer						
Proficiency Layer						
Operation Management Layer						
Decision Layer						

Figure 3 The matrix oriented model

2.1 The Technical Security Phase

The technical phase is subdivided into 12 sub phases that are as follows::

2.1.1 Right of entry Control

It is a mechanism of controlling entry . The control might be through prevention of unofficial entries, monitoring official entries, or limiting entries through predefined rules and roles. An e-government model will have a strong prerequisite of access control to the computer centers where governmental data are stored, government offices where staff handles the data, and even cables that carry the data between governmental departments.

2.1.2 Interruption detection and prevention

Interruption detection system (IDS) and prevention system (IPS) are key elements of any security system. They ensure the safety of systems and networks. Both technologies rely on either statistical and signature databases or on the behavior of the network through Artificial Intelligence (AI) agents. Both technologies sent alerts to the authorized staff whenever there is an attack sign.

2.1.3 Anti-virus & malicious codes scanners

Antivirus and malicious codes scanners are tools that perform a check on the technical body of the government and prevent viruses from being transferred through numerous channels and can cause serious damage to the government. The antivirus programs and users alertness will prevent the spread of computer viruses .

2.1.4 Authentication and passwords

Information system is the heart of any government. The requirement of protecting the privacy and the integrity of the information is very important. Authenticating the identity of the user is one of the fundamental factors a government needs to focus on. There is a need of 3-level security. First, Authentication through identification (password). Second, Authentication through something that they have (id card) Third, Authentication through something that is part of them (fingerprint).Permutation and Combination of these three factors make the authentication more accurate and hard to be searched..

2.1.5 Files reliability checks

Data reliability is one of the main security factors required in any government. Different tools can be used to ensure the data reliability such as digital signatures, certificates or hashing mechanism. A fall in the integrity of the data can cause a disaster if the data is related to medical, personal, or application to governmental service.

2.1.6 Cryptography

Cryptography is the art of hiding information from those who are not authorized to view it. Cryptography solves problems that involve secrecy, authentication and integrity. Cryptography contributes highly in building the trust of any e-government service.

2.1.7 Virtual private network (VPN)

VPN is becoming very popular in the today's business world. VPN services act like a tunnel to secure connection on wifi and protect your data. It play a major role in providing the staff working in supporting the e-government a mean of extending support to the infrastructure virtually, extend the work environment to the homes, and make the government information resources accessible to authorized users.

2.1.8 Vulnerability scanning tools

Vulnerability scanners for any security department trying to be in the proactive arena. Knowing the vulnerabilities of any government system, network, or application can add value to the security system of the government E-government will need to have scanners and tools for scanning the vulnerabilities and a group to analyze the result of these scanners.

2.1.9 Digital signature and digital certificate

"A signature or multiple signatures on the paper guarantee its authenticity". The digital signature is used to verify authencity, integrity, non-repudiation, i.e. it is assuring that the message is sent by the known user and not modified, while Digital Certificates on the other hand is used to verify the identity of the user, maybe sender or receiver. The main purpose of this technology is to become a main method of use in the electronic transactions in e-government services without being forgeable

2.1.10 Biometrics

Biometrics is the most technical tools providing logical and physical access control to information resources. It uses metrics related to human characteristics where no duplicate can appear. It prevents imitation by matching the database of traits to the traits owners. The usage of biometrics in e-governments can vary from accessing critical systems to accessing physical restricted areas such as computer centers.

2.1.11 Logical access control (Firewalls)

Firewalls are logical access control mechanism allowing and jamming entries to the government network by setting up some policies An e-government with several applications will need application layer firewalls to guard the systems infrastructure and boundary firewalls to protect the admission of users from different government departments and Internet.

2.1.12 Security protocols

Security protocol plays a very important task in encrypting data during its transaction from a one point to another. A table indicating all resources covering the information security technologies.

Table 2 Technical Phase

Technical Phase				
A1: Right of entry Control	A2: Interruption Detection Prevention	A3:Anti-Virus & Malicious Codes Signature	A4:Authentication and Passwords	A5:Files reliability Checks
A6: Cryptography	A7:VPN	A8:Vulnerability scanning Tools	A9:Digital Signature and Certificate	A10:Biometrics
A11:Logical Access Control(firewall)	A12:Security Protocols			

2.2 The Strategical Security Phase

Security policies are essential for building every successful information programme. The number of security policies can differ based on the needs of the government and the area of security meant to guard against a well defined threat. These policies can increase and has no limit. The model will still hold the idea to have the right combination of policies with the other phases in the model.

Table 3 Strategical Phase

Security Strategical Phase				
B1:Password Management	B2:Log-in-Process	B3:Logs Handling	B4:Computer Viruses	B5:Intellectual Property Rights
B6:Data Privacy	B7:Privilege Control	B8:Data Confidentiality	B9:Data Integrity	B10:Internet Connectivity
B11:Administrative Policies	B12:Encryption Policies	B13:HR Security Policies	B14:Third Party Policies	B15:Physical Security Policies
B16:Operation security Policies				

2.3 The Proficiency security Phase

Due to the proliferation of the Internet and the usage of the citizens of the government wide e-services, government departments must invest on the human capital of the information security departments. The proficiencies listed will help the government department to enhance the security control and narrow the gap of the information between the different government security departments. It will contribute in uplifting the trust on the security programmes between the government departments and will increase the usability of the e-services by the citizens due to the strong confidence in the security level of the government departments.

Table 4 Proficiency Phase

Security Proficiency Phase				
C1:security Operation and Management	C2:Security Architecture and Development	C3:Ethical Hacking	C4:Security Policies Development	C5:Computer Forensics
C6:Cryptography	C7:Security programming	C8:Laws and Regulations	C9:Security Implementation and Configuration	C10:Security Analysis

2.4 Security operations and management Phase

The National Institute of Standards and Technology (NIST) categorized the security controls into three categories; technical, operational, and management: Security concerns vigilant monitoring and management of critical assets and information resources. Management and operational tools are must to have in order to facilitate the security practitioner to perform the task and achieve the best objectives.

The most important facet of this phase is how the government runs its operation. The operational policies and procedures are the rules and regulations where the security operational staff will follow in performing the tasks expected from them.. These operational policies and procedures will spell out the security policy approved in the government and shall have strong reference to it.

Table 5 Operations and management Phase

Security Operations and Management Phase				
D1:Operational Policies and Procedures	D2:Management Tools	D3:Correlation and Data mining	D4:Reporting and response	D5:Analysis and Human Intervention

2.5 Decision

Reaching the right decision for launching or not launching an e-service will have a direct impact on the success or failure of the e-service. Taking one direction or another can affect the overall model in selecting policies, technologies and hiring the right staff to run the security programme. awareness, technologies and having the appropriate staff are what construct the right combination of the security programme of any organization.

Table 6 Decision Phase

Decision Phase				
E1:Cost	E2:Awareness	E3:Need	E4:Technologies availability	E5:FUD

3. THE MODEL EVOLUTION

The new model will be used as a reference to identify the security levels applicable to government services. In addition, a rating process will be applied on the different phases and sub phases by a group of selected security practitioners in order to confirm the applicability of the phases/sub phases proposed in the new model.

Table 7 Model Evaluation

The Extended Multi Phased Security Model						
Security Levels	**Sub Layers/Cells**					
Technology Phase	A1: Right of entry Control	A2: Interruption Detection Prevention	A3: Anti-Virus & Malicious Codes Signature	A4:Authentication and Passwords	A5:Files reliability Checks	A6: Cryptography
	A7:VPN	A8:Vulnerability scanning Tools	A9:Digital Signature and Certificate	A10:Biometrics	A11:Logical Access Control (firewall)	A12:Security Protocols
Policy Phase	B1:Password Management	B2:Log-in-Process	B3:Logs Handling	B4:Computer Viruses	B5:Intellectual Property Rights	B6:Data Privacy
	B7:Privilege Control	B8:Data Confidentiality	B9:Data Integrity	B10:Internet Connectivity	B11:Administrative Policies	B12:Encryption Policies
	B13:HR Security Policies	B14:Third Party Policies	B15:Physical Security Policies	B16:Operation security Policies		
Competency Phase	C1:security Operation and Management	C2:Security Architecture and Development	C3:Ethical Hacking	C4:Security Policies Development	C5:Computer Forensics	C6:Cryptography
	C7:Security programming	C8:Laws and Regulations	C9:Security implementation and Configuration	C10:Security Analysis		
Operation Management Phase	D1:Operational Policies and Procedures	D2:Management Tools	D3:Correlation and Data mining	D4:Reporting and response	D5:Analysis and Human Intervention	
Decision Phase	E1:Cost	E2:Awareness	E3:Need	E4:Technologies availability	E5:TUD	

4. CONCLUSIONS

This paper deals with analysis of the existing models and find out threats at each level and develop a new model to overcome these threats. The concept behind this model is to analyze the security needs and requirements for any e-enabled government in order to permit or not to permit the exchange of information between each other in e-government.

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Suresh Gyan Vihar University Journal of Engineering & Technology
(An International Bi-Annual Journal)
Vol . 6, Issue 1, 2020, pp 14-25
ISSN: 2395-0196

E-Governance Paradigm with Cloud Environment

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Abstract - Most of the companies including government organizations are running their applications in the cloud due to the rapid progressive in ICT. In current years cloud computing is one of the most considerabily achieved development in the IT industry which gives a proposals to use the application in the form of services which is more scalable, trustworthy, high performance and relatively low cost as compared to other distributed computing infrastructure. E-Governance is one of the applications of ITC to enable and exchange the information between the G2G, G2C, G2B, G2E modality of society. So it can be seen simply as moving citizen services online, but in its broadest sense it implies to the technology-enabled transformation of government. It reduce costs, whilst promoting economic development, increasing transparency in government, improving service deliverance and public administration, and facilitating the progressive of an information society. So for e-gov cloud implementation, resources for e- governance modality can be mapped to the services and deployment models. Though the e-Gov cloud deployment is a greatest confront of ICT, but the major confront is the security and protection to both government and the citizens. The major objective of this paper is to provide a clear idea about the e-Gov using cloud computing models and outlines the problems and requirements for accepting the e-Gov paradigm in India.

Keywords - Solar E-Governance, Cloud computing, Cloud computing models, e-gov using cloud infrastructure

I. INTRODUCTION

E-Governance

E-Governance implies to the use of information and communications technologies (ICT) to advance the efficiency, effectiveness, transparency and accountability of government [1]. E-Government can be seen simply as moving citizen services online, but in its broadest sense it implies to the technology-enabled transformation of government best hope to reduce costs, whilst promoting economic development, increasing transparency in government, improving service deliverance and public administration, and facilitating the progressive of an information society.[1][2][3] The major objectives are:

***1.1* Reducing Costs.**

Putting services on-line substantially decreases the processing costs of many activities compared with the manual way of handling operations. Efficiency is also attained by streamlining internal processes and by enabling faster and more informed decision making.

***1.2* Promoting Economic development**

Technology enables governments to create positive business climates by simplifying relationships with businesses and reducing the administrative steps needed to comply with regulatory obligations. There is a direct impact on the economy, as in the case of e-procurement, which creates wider competition and more participants in the public sector marketplace.

***1.3* Enhancing Transparency and Accountability**

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E-Government helps to increase the transparency of decision-making processes by making information accessible - publishing government debates and minutes, budgets and expenditure statements, outcomes and rationales for key decisions, and in some cases, allowing the on-line tracking of applications on the web by the public and press.

1.4 Improving Service Deliverance:

Government service deliverance, in the traditional process, is time consuming, lacks transparency, and leads to citizen and business dissatisfaction. By putting government services online, eGovernment reduces bureaucracy and enhances the quality of services in terms of time, content and accessibility.

1.6 ImprovingPublicAdministration-

e-government administrative components, such as a computerized treasury, integrated financial management information systems, and human resource management systems, lead to greater efficiency in public administration. Features include the integration of expenditure and receipt data, control of expenditure, human resources management, intelligent audit through data analysis and the publishing of financial data.

1.7 Facilitating an E-Society

One of the major benefits of an e-Governance initiative consists of the promotion of ICT use in other sectors. The technological and management capacities required for e-Government administration encourage, in turn, the development of new training courses and modules in schools and universities trying to supply the required skills and capabilities to the market.

II. E-GOVERNANCE FACILITY

- **Government to Citizen:**

It deals with the relationship between government and citizens. G2C allows citizens to access government information and services instantly, conveniently, from everywhere, by use of multiple channels. [1]

- **Government to Business:**

It consists of e-interactions between government and the private sector. The opportunity to conduct online transactions with government reduces red tape and simplifies regulatory processes, therefore helping businesses to become more competitive. [1]

- **Government to Government:**

Governments depend on other levels of government within the state to effectively deliver services and allocate responsibilities. In promoting citizen-centric service, a single access point to government is the ultimate goal, for which cooperation among different governmental departments and agencies is necessary. G2G facilitates the sharing of databases, resources and capabilities, enhancing the efficiency and effectiveness of processes. [1][2]

III. NATIONAL E-GOVERNANCE PLAN(NEGP)

National e-Governance Plan (NeGP) has been approved by the Government of India for implementation during the years 2003-2007 to lay foundation and provide impetus to e-Governance throughout the Country. The Plan advocates definition of institutional mechanisms and core policies for managing e-governance initiatives across the Country in a cohesive manner and entails that services, having high volume of citizen interactions, with major impact on National and Regional economies or where service-owners themselves show readiness to optimize, be targeted as Mission Mode Projects (MMPs) at various levels.[1][5]

Further, by providing appropriate weightage to quality and speed of optimization and by utilizing full potential of private sector involvement, NeGP aims at creating a citizen-centric and business-centric

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environment for governance. [5]However, it was observed that most States were inadequately equipped in terms of personnel and skill-sets needed to handle the host of issues involved in effective implementation of NeGP in their respective areas. State Governments needed to provide for overall direction, standardization and consistency across initiatives and at the same time, were to have resources and flexibility to drive the Plan in the best-possible manner

IV. THE E-GOVERNANCE STRATEGY IN INDIA

- Localize implementation and decision-making and deploy the core infrastructure to deliver services to the Third Tier of Governance [5]
- Manage all ICT initiatives as 'capital investments' which can be evaluated in terms of pre-defined goals and measurable targets
- Make various stakeholders capable of conceptualizing, developing and managing e-Governance tools themselves
- Aim at service-oriented approach of Governance and create an integrated, modular and scalable framework to become more adaptive
- Utilize policies, structures and frameworks to bring about transparency in various government functions. [5][6] figure-1 outlines the Six pillars for achieving e-Governance framework.

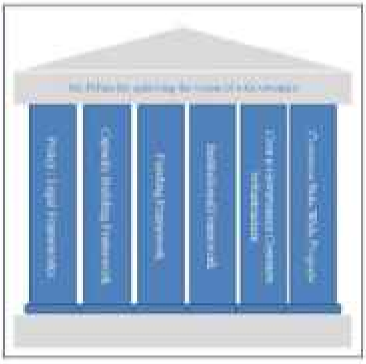

Fig-1. Six pillars for achieving e-Governance framework [1]

V. MAJOR IMPLEMENTATION CONFRONTS IN INDIA

Poor people and poor infrastructure are major confronts in countries like India. It poses a major confront in reaping the full benefits of service provision under e- governance. The various barriers can be enumerated as follows: [5][6]

- **Poverty:**
  Accessing Internet is a costly affair for the poor who struggle for their livelihood in developing countries like India. Required infrastructure in the form of installing the necessary telephone lines needed for internet or email access is equally unaffordable in most poor countries.
- **Technical illiteracy:**

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There is general lack of technical literacy as well as literacy in countries like India.

- **Language Dominance:**
The dominance of English on the internet constrains the access of non-English- speaking population. In the case of India, 95 percent of the population does not speak English. Due to such overwhelming dominance of English over these communication channels, computers and the internet are quite useless in Indian villages.
- **Unawareness:** There is general lack of awareness regarding benefits of E-Governance as well as the process involved in implementing successful G-C, G-G and G-B projects.
- **Inequality:**
Inequality in gaining access to public sector services between various sections of citizens, especially between urban and rural communities, between the educated and illiterate, and between the rich and poor.
- **Infrastructure:**
Lack of necessary infrastructure like electricity, internet, technology and ways of communications will affect the speed which delays the implementation.
- **Impediments for the Re-Engineering process:**
Implementation of E-Governance projects requires lots of restructuring in administrative processes, redefining of administrative procedures and formats which finds the resistance in almost all the departments at all the levels. [5]

VI. CLOUD COMPUTING

Cloud computing is a next generation computing proposals that helps the users to share the resources through communication mediums. According to National Institute of Standards and Technology (NIST) one of the most accepted definition of cloud computing is 'Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction'. European Community for Software and Software Services (ECSS) defines 'cloud computing as the deliverance of computational resources from a location other than your current one'.[7][8][9] So in simple words cloud computing can be defined as a distributed computing environment that enables the users to access and exchange their resources (applications and data) remotely and provides services to use the remote hardware and software within a network without the knowledge of technological infrastructure . The figure-2 shown below gives a clear idea regarding the infrastructure requirements for cloud deployment.

Fig-2 The Cloud infrastructure

Advantages of Cloud Computing

- **Flexibility/Elasticity:**
  Users can access computing resources as and when needed, without any human interaction. Capabilities can be
  rapidly and elastically provided in some cases automatically.[7][20][22]
- **Scalability of Infrastructure.**
  New nodes can be added or removed from the network as can physical servers, with limited modifications to infrastructure set up and software. Cloud architecture can horizontally or vertically according to the users requirements.[7][22]
- **Broad Network Access.**
  Capabilities are available over the network and accessed through standard mechanisms that promotes by using heterogeneous proposalss (like mobile phones, laptops, and PDAs).
- **Location Independence.**
  Cloud interfaces are location independent and they can be accessed by well established interfaces such as Web services and Web browsers, so that no knowledge about exact location of the user is required. It gives a high level of abstraction to the users data.
- **Unlimited Storage.**
  Storing information in the cloud gives almost unlimited storage capacity. Hence no more need to worry about running out of storage space or increasing current storage space availability.
- **Easy Access to Information.**
  Once registered in the cloud environment any one can access the information from any location provided, there is an Internet connection.
- **Economies of Scale And Cost Effectiveness.**
  Cloud implementations regardless of the deployment models tend to be as large as possible in order to take advantage of economies of scale. Large cloud deployments can often be located close to cheap deployment to lower cost. It does not require upfront investment and much capital expenditure. Users may pay and use or pay for services and capacity as they need them. [22]
- **Backup and Recovery.**
  Since all the user's data is stored in the cloud , backiing it up and restoring the same is relatively much easier than storing the same on a physical device.Most cloud service providers are usually competent enough to handle recovery of information. Hence this makes the entire process of backup and recovery much simpler than other traditional methods of data storage.[7]
- **Reliability**
  It advances the use of multiple sites which makes cloud computing suitable for business continuity and disaster recovery.
- **Sustainability**
  It advances resource utilization and makes the cloud environment more efficient.

VII. CLOUD COMPUTING SERVICE MODEL

Infrastructure as a Service(IaaS)

Infrastructure as a Service (IaaS) is one of the three fundamental service models of cloud computing . A services of cloud computing models is shown in the figure -3. In this model the

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users are allocated with computing resources in order to run their applications. The computing services are provided in a virtualized environment i.e in cloud by using a communication network. The best known example of IaaS is Amazon Cloud Formation, Amazon EC2. It can be implemented by utilizing the concepts like Enterprise infrastructure, Cloud hosting, and Virtual Data Centers (VDC). Network as a service (NaaS) is a category of cloud infrastructure services where the user can use the network connectivity as a services. NaaS involves the optimization of resource allocations and resource computing in the network. VPN, and bandwidth on demand are the common example of NaaS.[14,15,16,22]

Advantages of IaaS.

- Resources are available on demand as and when the user requires it. That means the user will not have to worry about the Infrastructure required to run the application. so this scalable.
- In IaaS the Infrastructure the virtualized environment is set up and majortained by the cloud provider. So no investment in hardware for the users. As it saves the implementation cost and time of execution.
- The service can be accessed on demand and the client only pays for the resource or application used not for the Infrastructure
- The service can be accessed from any location 24X7 provided there is an internet connection. So IaaS is location independent.
- Physical security of users data is the responsibility of the cloud provider. So the time required to give security to data is saved.
- The chance of system failure is less. Any case of failure will be smoothly handled by the service provider. So it is fault tolerant.

Fig-3 The layers of cloud service models

Proposals as a Service(PaaS).

Proposals as a Service is a category of cloud computing service model that provides the developers a proposals to build and use applications and services by using a communication network. PaaS services are available in the cloud and accessed by users by using web browsers. In the PaaS model, cloud providers provides a proposals which includes operating system, programming language execution environment, database, and web server. The users can use these

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facilities to develop their applications. The well known PaaS providers are AWS Elastic Beanstalk, Cloud Foundry, Heroku, Force.com, OrangeScape. The services are constantly updated by the service providers, with existing features upgraded and additional features added. In PaaS services the user has to pay for a subscription basis and charged just for what they use. PaaS includes Operating system, Server-side scripting environment, Database management system, Server Software, Network access ,Tools for design and development and web hosting.[22]

Advantages of PaaS:

- The user doesn't have to invest for physical infrastructure aws it will be provided by IaaS on demand.So this gives fully mobility to focus on the development of applications.
- With PaaS services application development is simple. So anyone can develop an application with less technical knowledge by using web browser.
- User can have control over the applications that are installed within their proposalss and can create a platform that suits their specific requirements. They can pick and choose the features they feel as necessary.
- In PaaS applications can be changed or modified if required.
- The services are not isolated, application specific or location dependent. So users in various locations can work together provided they are connected through a communication medium.
- Security of users data and the application is the responsibility of the cloud provider. Data security, backupand recovery are the major security issues.

Software as a Service(SaaS)

The third model is **Software as a Service** which provides a proposals in which the users access the software from the cloud. The users of SaaS will not have to worried about managing the cloud infrastructure and proposals on which the application is running. The software installation and operation is the responsibility of the service providersand already available by using IaaS and PaaS.[17,18,22] This is typically end user applications delivered on demand over a network on a pay per use basis. The examples of SaaS include: google apps, MicrosoftOffice365, Onlive, GT Nexus, Marketo, and TradeCard. These applications are hosted in 'the cloud' and can be used for a wide range of tasks for both individuals and organizations.

Advantages of SaaS.

- No additional infrastructure or proposals required to run the applications, as it provided by the service provider (IaaS and PaaS).
- Software Applications are ready to use once the user subscribes. The user only have to pay for software not for infrastructure or proposals setup.
- With SaaS services application development is simple. So anyone can develop an application with less technical knowledge any time by using web browser.
- Software updating is automatic i.e if any updates are available online to existing user, offered free of charges.
- SaaS provides mobility to the user where applications can be accessed via any internet enabled device, which makes it ideal for those who use a number of different devices, such as internet enabled phones and [illegible]

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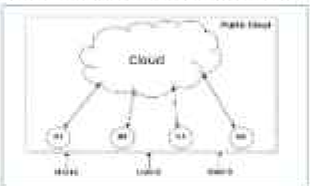
- The services are not isolated, application specific or location dependent. So users in various locations can work together provided they as connected through a communication medium.
- There are no initial setup costs is required with SaaS, as SaaS offered with other services.

VIII. CLOUD DEPLOYMENT MODELS

According to the usages of data and applications required by the users the cloud computing models are broadly classified in four different types called as cloud deployment models.

Public Cloud(External Cloud)

The most popular model of cloud computing to many users is the public cloud model. It provides cloud services in a virtualized environment accessible via Web applications or Web services through



internet (Public Network). The cloud services and cloud resources are accessed from very large resource pools that are shared by all the end users as depicted in figure-4. It is owned by an organization selling cloud services.Cloud services like IaaS, PaaS and SaaS follows the public cloud model and gives Flexibility to end users for accessing these services from any internet enabled devices. [15,16,17,18,19,22]

Fig -4 : Public Cloud Deployment Model

Private Cloud(Internal Cloud)

A private cloud provides a distinct and secure cloud based environment in which only the authentic users within an organization can access, as depicted N4 acts as a private cloud terminal. It makes the use of virtualization within the private area. It may be managed by the organization or a third party, and may exist on premise or off premise.

Community Cloud(Grouped Cloud)

A community cloud provides a distinct and secure environment where organizations with similar requirements share a common cloud infrastructure. So it is called as generalization of a private cloud where a private cloud infrastructure is only accessible to permissible users as shown in the figure-6. It may be managed by the organizations or a third party and may exist on premise or off premise. [18,19,21]

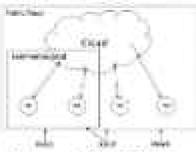


Fig -6: Community Cloud Deployment Model

Hybrid Cloud(Mixed cloud)

A hybrid cloud provides an integrated environment accessible to both private and public cloud functionalities. Therefore, an organization can maximize their efficiencies by employing public cloud services along with private cloud ensuring that all of their proposals are virtualized. Organizations who manage their private clouds first registered to a public cloud service which they then integrate into their infrastructure. The figure-7 shown below is the deployment model for hybridcloud.[19]

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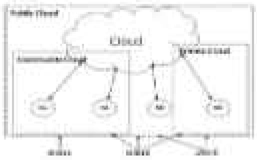

Fig - 7: Hybrid Cloud Deployment Model

cloud services in figure-8(b) ,outlines the importance of e-gov cloud and its visibility and readiness over time.[22]

Cloud Based E-Governance System

So for e-gov cloud infrastructures, application and data usages of e-governance modality can be mapped to the three different service models such as Infrastructure as a Service (IaaS), Proposals as a Service (PaaS), and Software as a Service (SaaS) and can also be deployed in the form of Public cloud, Private cloud, Hybrid cloud and Community cloud. It gives a proposals to use the applications(G2G,G2C,G2B,G2E) in the form of services which is more scalable, trustworthy, high performance and relatively low cost as compared to other implementation of e-governance services. The figure-10 represents the e-governance modality services with cloud Infrastructure.[6][22][23] table-1 and table -2 represents the egov confronts and cloud benefits including the resource analysis.

Fig-8 E-Gov cloud using cloud infrastructure

Table-1. E-Gov confronts and cloud benefits

S.No	1	Cloud Benefits
1.	Reducing Costs	Deploying the e-gov services in cloud substantially decreases the processing costs of many activities compared with the manual way of handling operations. Efficiency is also attained by streamlining internal processes and by enabling faster and more informed decision making.[22]
2.	Promoting Economic development	Cloud implementations regardless of the deployment models tend to be as large as possible in order to take advantage of economies of scale. Large cloud deployments can often be located close to cheap deployment to lower cost. It does not require upfront investment and much capital expenditure. It advances resource utilization and makes the service deliverance more efficient. .[22]

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3.	Enhancing Transparency and Accountability	Users in cloud environment can access computing resources as and when needed, without any human interaction. Capabilities can be rapidly and elastically provided in some cases automatically. It advances the use of multiple sites which makes cloud computing suitable for business continuity and disaster recovery. .[22]
4.	Improving Service Deliverance	New nodes can be added or removed from the network as can physical servers, with limited modifications to infrastructure set up and software. Cloud architecture can scale horizontally or vertically according to the user requirement . Capabilities are available over the network and accessed through standard mechanisms that promotes by using heterogeneous proposals (like mobile phones, laptops, and PDAs). .[22]
5.	Facilitating an e-Society	Once registered in the cloud environment any one can access the information from any location provided, there is an Internet connection. For deployment storing information in the cloud gives almost unlimited storage capacity. Hence no more need to worry about running out of storage space or increasing current storage space availability. .[22]
6.	Improving Public Administration	E-government administrative components, such as a computerized treasury, integrated financial management information systems, and human resource management systems, lead to greater efficiency in public administration. Features include the integration of expenditure and receipt data, control of expenditure, human resources management, intelligent audit through data analysis and the publishing of financial data. All the above functionalities can be managed by the faster and more informed decision making capabilities provided by CSP.[22]
7.	Reducing Costs	Deploying the e-gov services in cloud substantially decreases the processing costs of many activities compared with the manual way of handling operations. Efficiency is also attained by streamlining internal processes and by enabling faster and more informed decision making.[22]

Table-2. Resource analysis using cloud infrastructure

S.No	Parameters	E-Gov Deployment	E-Gov Deployment Using Cloud
1.	Access	Via web	Via web
2.	virtualization	N/A	Essential
3.	Switching cost	High	High ,due to incompatibilities
4.	Ease of use	Difficult	Easy
5.	Business model	Web based	Pricing (based on rent rate)
6.	Application development	Via web	In the cloud
7.	Control	Distributed	Centralised/distributed
8.	Openness	High	low
9.			

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	Service level agreements	Optional	Essential
10	Production Server Hardware	Essential	Provided by CSP
11	Web servers	Essential	Provided by CSP
12	Application servers	Essential	Provided by CSP
13	Database servers	Essential	Provided by CSP
14	Production Server Operating Software	Essential	Provided by CSP
15	Development Server Hardware	Essential	Provided by CSP
16	Backup server	Essential	Provided by CSP
17	Laptops and desktops	Essential	Provided by CSP
18	Development servers	Essential	Provided by CSP
19	Development Server Operating Software	Essential	Provided by CSP
20	Network Hardware	Essential	Virtualised infrastructure by CSP
21	Routers	Essential	Provided by CSP
22	Switches	Essential	Provided by CSP
23	Load-balancing systems	Essential	Provided by CSP
24	Firewalls	Essential	Provided by CSP
25	Backup system	Essential	Provided by CSP
26	Other security expenses	Essential	Provided by CSP
27	Transmission/Bandwidth Charges	High	Vary (based on rent rate)
28	Facilities/Equipment	High	Vary (based on rent rate)
29	Man power required	More	Less
30	Business staff (requirements development)	More	Less
31	Technical staff (planning and engineering)	More	Less
32	External contractors/consultants	Required	Optional
33	Capital	High	Vary (based on rent rate)
34	Depreciation of server hardware	Essential	Provided by CSP
35	Depreciation of network hardware	Essential	Provided by CSP
36	Hardware maintenance	Essential	Provided by CSP
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	Hardware upgrades	Essential	Provided by CSP
38	Software maintenance	Essential	Provided by CSP
39	Software upgrades	Essential	Provided by CSP
40	Bandwidth/transmission charges	Essential	Provided by CSP
41	Post-launch hosting expenses	Essential	Provided by CSP

Conclusion

This paper explains about the better e-governance services than can be available to the users if the services are available through cloud infrastructure. It gives proposals to use the application in the form of services which is more scalable, trustworthy, high performance and relatively low cost as compared to other distributed computing infrastructures. As E-Governance is the application of IIC to enable and exchange the information between the G2G,G2C,G2B,G2E modality of society. Though the E-Gov cloud deployment is a greatest confront of ICT, but the major confront is the security and protection to both government and the citizens. The major objective of this paper is to provide a clear idea about the E-Gov using cloud computing models and outlines the problems and requirements for accepting the e-Gov paradigm in India.

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(An International Bi-Annual Journal)
Vol . 6, Issue 1, 2020, pp 14-25
ISSN: 2395-0196

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Suresh Gyan Vihar University Journal of Engineering & Technology
(An International Bi - Annual Journal)
Vol. 6, Issue 2, 2020, pp 01 – 04
ISSN: 2395 - 0196

E-Governance: Helping in times of Covid-19 Lockdown

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Abstract - E-governance facilities have been helping public in general. Here we present the functioning of E-facilities in times of Covid 19 Lockdown, and how they are making lives of common man easier in the pandemic times.

E-facilities have always occupied an important part in our lives. During this lockdown period due to covid-19, e-facilities have proved to be all the more important alternatives of local facilities. As this lockdown has resulted in schools, offices, shops etc. shut all across the world, e-facilities are playing significant roles in providing people these services through online platforms. The District Administrations are using technology to implement India's strategy as a process- oriented approach to contain the spread of covid-19 pandemic in their jurisdiction. The use of Integrated Command and Control Centre, e-pass, artificial intelligence-enabled CCTV cameras and e-office are some of them. The district administrations are working on many fronts. First and foremost is to stop the spread of covid-19 by following the protocols given by the Government of India. This include proper contact tracing of positive cases, quarantine suspected people using Aarogya Setu application, and preparedness study of the covid-19 hospitals.

In education sector, e-Learning had emerged even before covid-19 and there was already high growth and adoption in education technology. Now that online learning has completely substituted the traditional teaching systems and offline classrooms, it has been observed that there is an increase in retention of information and it takes less time.

E-Learning platforms like e-PG Pathshala, Swayam, NPTEL provide books, notes and videos for school education as well as higher education. As the demand of online learning increased, platforms like BYJU'S, Vedantu etc. are offering free access to their services.

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Students can learn new skills and even acquire degrees in professional online courses. Renowned universities are availing their popular online courses to the students across the globe for free. MOOC is an example of free online course that supports learning in a variety of different subjects. E-books are being provided by websites like PDF drive, Google books etc. Application softwares like Google Classroom, WhatsApp, Cisco Webex, Zoom, Google meet help in conducting online classes and virtual meetings. Media organisations such as BBC are also powering virtual learning.

E-Governance plays a major role in emergency situations. However, the technology has proved its strength as we have used it efficiently during the crisis. The use of tech has proved that emergency situations can be handled better and safeguard efficient workflow as well. Technology has made 'work from home' possible for people so that the lockdown may not stop them from doing their jobs as well as from earning a living. In IT sector, companies are conducting online meetings. People can also purchase online insurances. The home deliveries of groceries have become possible only due to e-facilities. In Govt. Sector the Video conferencing facility of NIC has been extensively used by district administration officials including Commissioner Division, Commissioner Municipal Corporation, Deputy Commissioner, Addl. DC, SDMs, City Magistrate, DRO, DDPO, Covid Core Group etc. Technical support has also been provided for conducting Desktop based VCs through different apps, including Vidyo app, at the residences of Officers.

E-commerce has given us facilities to order and buy essential goods and in green and orange zones, non-essential goods also using apps like Amazon, Flipkart etc. Today we can pay our water and electricity bills, telephone and internet bills using digital banking. Online banking provides services like online money transferring, recharging our phones etc.

At a time when the entire world is facing unprecedented challenges due to COVID-19 outbreak, the government agencies are on their toes to support the Central, state and district agencies to carry on rolling out necessary citizen services with the assistance of e-governance. In such times, the MeitY's technical arm, National Informatics Centre (NIC) is leveraging technology at its best to support the government-run organizations to carry out essential tasks during the lockdown. It is supporting the administration during this hour of crisis through its ICT solutions and infrastructural competence. Through its technology-enabled services and platforms, NIC has been successful in providing a sustainable environment to a great extent. Prime Minister is leading the way by widely using VC service to connect with the

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administration at all levels and the peoples at large thereby observing the entire COVID-19 situation closely and promising them of all likely support by the government.

The government banks are depositing Rs.500 in accounts of female PMJDY account holders under Pradhan Mantri Garib Kalyan Yojana so that the females who depend on daily wages and are now facing problems in running their homes may get some help from it. Govt. of Haryana has taken a step to provide financial assistance in current situation of Covid-19 to unorganized workers such as street vendors, rickshaw puller, domestic helper, and street vendors etc. who are not registered with Government to get any benefit. . Citizen can visit http://poorpreg.haryana.gov.in or call helpline 1100 to register himself/herself. After due diligence of information, eligible would be provided Rs. 1000 per week till lock down. In the background, details are being cross checked from various other databases to find out if applicant is not getting any benefit under any other financial scheme. Rickshaw Puller, Labour in Restraunt/Dhabas and Auto Rickshaw with valid registration no. were auto included in eligible list. Govt. of Haryana is various Portal like TRACKPDS (A Unified Platform to capture the Food grains requests during Lockdown). TrackPDS is a unified platform for capturing the requests for Food by the needy residents of Haryana State during the Lockdown period. This platform is integrated with State Help lines, District Headquarters and Unorganized Labour Portal and provides facility to manage the beneficiaries. This portal is also seamlessly integrated with Public Distribution System for checking whether beneficiary is already has access to free food grains through PDS System or not and Distress Ration Token Portal for issuance of Distress Ration Token to the beneficiaries which needs Food grains. Further, The TrackPDS is integrated through Web APIs with the Public Distribution System (PDS), Relief Camps, Jan Sahayak Mobile App, Help Me Mobile App, Unorganised Labour Portal, Distress Ration Token Portal (DRT) portals

Government websites like e-NAM (National agricultural market) and other state grain market portals are helping farmers to sell their crops efficiently during lockdown period. Farmers can also detect the diseases of their crops by sending the photo of the affected plant and can get the required pesticides and insecticides by consulting the agricultural experts on these portals. Using e-facilities we can also seek medical help. Most of the hospitals have closed their OPDs and majority of medical issues are being solved by online consultation for minor illnesses.

Aarogya Setu app helps people to check whether they are in safe zone or not. On such

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apps patient can give their symptoms and get e-prescriptions and order online medicines also. Aarogya Setu App access with the WebVPN accounts got created by NIC for required officers so that the Aarogya Setu App usage, Analytics and various other Dashboards support has been provided. The access to the Deputy Commissioners has been provided along with the raw data of the persons on Unwell, Bluetooth Contacts, Quarantine (travel), Healthy & Proximity, Quarantine due to Proximity and test, Unwell & Travel etc. has been provided to DC so that the appropriate actions could be taken and spread of COVID-19 could be contained.

In this worrying lockdown situation, there has been an increase in demand for support from mental professionals too. Many psychiatrists are offering virtual sessions and telephonic support which is extremely important. The Parliament meetings and Prime Minister Office meetings are being conducted online. Sports activities are being telecasted live without any audience in the stadiums. This shows that e-facilities are helping us in staying entertained. People can also get live darshan of prominent temples, Gurudwaras and other places of worship. Last but not the least, in this lockdown as we all are isolated in our homes, e-facilities are helping us to remain in contact with our friends and relatives via social media.

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E-Governance - Trends, Scenario, Problems and Solutions

Vani Jain

Abstract— In the epoch of Information and Communication Technology (ICT) has provided means for faster and better communication, retrieval of data and utilization the information to its users. e- Governance is basically the application of ICT to provide government services to the citizens via internet. In developing countries like India, where literacy level is very low and a large number of people are living below poverty line, people are not even aware about the benefits of e-Governance activities and Citizens do not use Information and Communication technologies to a much extent, there exist a number of internal departmental issues to implement e-Governance activities. This article highlights challenges faced during implementation of e-Governance across all the states of India with special attention to land records computerization as a part of mission mode project (MMP).

Keywords— MMP, E-Government, ICT, GDP, Security, Cloud, Technical Challenging, Interoperability, Requirement Analysis

INTRODUCTION

The term e-Government came into existence with the advent of government websites in late 1990s. There are many studies on e-Governance projects defining e-Governance in different ways. E-Governance is not just the ―use of information and communication technology in managing governance‖ or service delivery over Internet‖ or digital access to public services‖, rather it involves participation of public citizens. In other words, e-Governance involves ICTs, through internet, to deliver effective and efficient government services to citizens, businesses and government agencies. E-Governance is not just limited to the public sector only but also includes the management and administration of policies and procedures in private sector as well. It creates the new interface for citizens to interact with government. It also provides the choice of place from where they want to avail government services. Hence, e-Governance is ―participation of public in government service delivery system to increase the efficiency, accountability, transparency, convenience and value addition in service delivery by interacting with government through electronic platform.‖

There are many other definitions available for e-Governance. Gartner defines ‗e-Governance' as the continuous optimization of service delivery, constituency participation and governance through the Internet and new media. World Bank defines (as per Asia Oceania Electronic Marketplace Association report): e-Government means to the use of information technologies (such as Wide Area Networks, the Internet, and mobile computing) by public/government agencies that have the ability to transform relations with people, businesses, and other areas of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved transactions in business and industry, citizen empowerment through access to information, more effective and efficient management.

One of the earliest uses of ICT in Governance has been putting up information w.r.t. the functioning of various departments, its rules and regulations and major announcements on the website for everyone to see/know. This simple step has increased transparency by a wide margin, because it has removed the necessity of local officials to be available in person to provide this basic information to the public. In the next step involving e- Governance, a number of Government departments have begun to put up important decisions regarding award of tenders and contracts, etc. on their websites. Each step of the tendering process is widely publicized, so that the chances of a small group of corrupt people colluding with officials to bag tenders have considerably reduced. Some Government departments have automated the application processes for several purposes. For example, one can now apply online for a passport.

E-Governance enhances transparency because it saves a record of every transaction, government officials cannot refuse about any action that they have taken, nor can they say that they cannot trace a particular document. For example, if one fills up a passport form online, a unique application number is generated, and that record is available to review their processes. This is the high time for the Government to understand the necessity of e-Governance and Transparency.

Presently citizens are moving towards IT based solutions available at their doorstep/hand. Also the young generation is moving towards an educated society and thus the overall impact of e-governance is highly significant. For instance, as a special case of Land Records, the services are being delivered through various modes:

- Apna Khata Centre at Tehsil Level
- E-Mitra/CSC with digital signature
- Authorized Cyber Kiosks
- Open Domain through Land Records Website
- District Land Records Centre

But in developing countries like India, where literacy level is very low and most of the population being below poverty line it is extremely difficult for the government to provide its services to such citizens via means of internet. There are a number of e-Governance projects running today but most of the e-governance projects fail to sustain in long run due to a large number of obstacles in implementation of e-Governance in India. These can be categorized as: Environmental and Social Challenges, Economical Challenges and Technical Challenges. Nature of government projects is extremely complex and tend to spread across multiple boundaries and time lines. Working with the government resulting poses significance challenges which are explained below.

CHALLENGES IN E-GOVERNME SERVICE DELIVERY SYSTEM

A. Environmental and Social Challenges

- Low Literacy: Literacy can be defined as the ability to read & write with understanding in any language. A person who can merely read but cannot write can't be considered as literate. Similarly formal education or minimum educational standard is not necessary to be considered literate. Low Literacy level of India is a huge obstacle in implementation of e-Governance projects. Illiterate people are unable to access the e-governance services; hence the projects do not get much success.
- Low IT Literacy: A large number citizens are not literate and those who are literate, they do not have much knowledge about Information Technology (IT). Most of the peoples in India are not aware about the usage of Information Technology. So, in India, with such low IT literacy level, success of e-Governance projects is difficult to achieve. So, first of all people must be made aware about the usage of Information Technology anywhere.
- Service Unavailability: Even when Internet is available, there are performance related issues either related to application or Internet connectivity leading to non-usage of e-Governance services.
- Diversity in India: People in India come from different backgrounds speaking different languages. Citizens face language problems while using computerized services. Most of the applications and websites are either in English or Hindi.
- Low Confidence on Technology: The citizens are not well aware to handle the computer & ICT. Even if the system works and they are in a position to use the system, Citizens of India tend to not trust the outcome of technical solution placed. For example in many cases two parallel systems exist to cater the service – manual and computerized system. There generally comes a gap in information available in both the systems due to delays in updating records which leads to lack to trust in available infomation. Also Manual signature copies of records are valid, where ever it is be placed either for agriculture loan /sale of land/ bank loan etc. It means there is a high dependence on field functionaries in terms of updating and signatures.
- Lack of Expertise: Observation says expertise are not available in different departments of government for immediate repair of hardware/networking, therefore an obvious delay exists in the system. Even if any requirement to repair/ new procurement then its procurement process takes time to fulfill the procurement norms and polices.
- Struggle to Change: The struggle to change phenomenon can explain much of the hesitation that occurs on the part of citizens in moving from traditional paper based manually maintained system to automated wed based solutions. to

interact with government.

• Lack of Integration: Majority of the e-Governance services are offered by the state or central government are not integrated with each other. Lack of interoperability & liner communication between departments may be its major cause. Therefore, the data that resides within one part of system/department has zero or very little meaning to some other department of the government.

• Lack of Awareness Amongst Citizens: Most of the people are unaware of the benefits of e-governance services. Even the government doesn't take initiatives to create environment for the people awareness about e-Governance activities. Unawareness is one of the biggest hurdle in successful implementation of e-Governance projects.

B. Economic Challenges

• Limited Financial Resources: The Gross Domestic Product (GDP) is one of the measures of national income and a country's economy. GDP is defined as the total market value of all final goods and services produced within the country in a given period of time. GDP of a country is the measure of its financial strength/ability. Our country has limited financial resources so as to implement and maintain the e-Government projects properly.

• Low per Capita Income: Per capita Income means how much money each individual receives from the yearly income generated in a particular country. This means to what each individual receives if the yearly national income is divided equally among everyone. Per capita income of India is low as compare to the other countries. Therefore, people cannot afford services available on web/internet provided by the government which is a challenge for implementation of e-governance.

• Cost: In developing country cost is one of the most important obstacles in implementing e-Governance where majority of the population is living their livelihood below poverty line. A huge amount of money is involved in implementation, operational and evolutionary maintenance tasks. Installation and maintenance cost of hardware & network is very high. These costs must be low enough so as to guarantee a good cost/benefit ratio.

• Cost for usage: All citizens cannot afford to have Internet facility at their door steps, so government may facilitate free facility to access the information through any government outlets/Business centers.

• Maintenance of Electronic Devices: As the Information Technology changes very fast and it is extremely difficult for us to update our existing systems that fast. Regulations of different devices and their different parameters may vary and the system in use must be capable enough to handle all the emerging needs.

C. Technological Challenges

• Defined Requirements: In traditional government functioning, there were large amount of discretion to deliver service but when we convert these processes into application, it becomes the issue of freezing the processes. As requirement analysis is not properly done, therefore process could not be re-engineered significantly. The requirement analysis is a key component of any service mechanism to make it deliverable.

• Inter-operability: Inter-operability is the capability of systems and organizations of different qualities to work together. The e-Governance applications must have this feature so that the newly developed and existing applications can be implemented together.

• Lack of Infrastructure: Many government offices do not have proper adequate ICT infrastructure to make their services deliverable. Lack of Internet connectivity through Broad Band/optical fiber connections in most of the villages leading to difficulty in accessing information. Power cut problem in villages creates problem in service deliveries. Even when resources with Internet is available, there are performance related issues either related to application or Internet connectivity leading to non-usage of e-Governance services.

• Lack of Resources: Dedicated Hardware & Network engineers are required for solving operational problems in many organizations.

• Lack of back up: Most of the departments lack regular and centralized backup system.

• Lack of strategy or policy: It is required to increase citizen's confidence and trust on government services.

• Tried and tested technologies: Technology tends to get out of time delivery very fast. Our government may not be in position to buy new storage infrastructure very frequently. So, it is advisable to use better and safer technologies and

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products which are tried and tested for durations long enough rather than using the latest ones.

- Privacy and Security: There will be three levels of access available for e-government stakeholders: no access to a web services; extent amount of access to a web-service or full-access to a web service, however when personal sensitive data exists the formation of the security access policy is a much more complicated process with legal consideration. With the implementation of e-governance services related projects, effective measures must be taken to protect sensitive personal information. A lack of security standards and protocols can limit the enhancement of
- pojects that contain sensitive information such as income, medical history.

We saw how the concept of e-governance has evolved over the years in Indian scenario and how much it is required for responsiveness, transparency and accountability on the part of government and at the same time it is also a toll to increase the participation of citizens in making policies by appropriately empowering them with the right information at right time. The penetration of internet, and telecommunication services in India has increased in the last decade and this gives a ray of hope to the citizens of the nation to fight with the long persisting problems of poverty, corruption, regional diversities and unemployment. But at the same time, slow pace of project completion leads to red tapism and resistance from government officials and citizens too has not given the desired result.

I. PROPOSED FRAMEWORK/MODEL

To overcome such challenges, a well-designated Architecture Governance has to be put in place considering all factors/sources of roadblocks which hinder the success of projects related to e-Governance. A Strategic framework for designating and implementation of e-government may be helpful. On the basis of the study of e-readiness in India and the challenges faced during implementation of e-government in India, a conceptual framework for the effective designing and implementation of e-government projects in India is suggested. This conceptual framework/model can be divided into five stages:

- Vision for E-Government Implementation - In the first stage, the overall vision for the effective implementation of e-government has to be determined. In this level it must be planned that to what extent the e-government can be implemented.
- Assessment of E-Readiness - To fulfill the vision, e- readiness of India must be assessed. It must be compared with respect to other countries. The e- readiness reveals the position of Indian environment with respect to the other countries e-governance environment.
- Overcoming Challenges of E-Government - In the assessment process the challenges for effective framework of implementation of e-government must be exposed. These challenges are low literacy, non awareness of IT, low per capita income and limited financial resource in India. The challenges should be overcome for the effective implementation of e-government. This can be done in various ways:
  - Making a policy choice in favor of computerization. It may require huge investments for the purchase of hardware and software solutions but should still be implemented..
  - Sincere efforts would be required to mobilize resources for this arduous job. One way to deal with the situation could be that government enters into arrangements for leasing of computers.
  - Establishing the best optimal connectivity between various ministries and departments of government of India so that transfer of documents, papers and images could be done through Internet thereby choosing better speed as an alternative to manual effort Supplying information to citizen in their local language that they understand and are comfortable with, for example their local dialect language.
- Changing the mindset of the employees who are habitual of working only in the manual mode.

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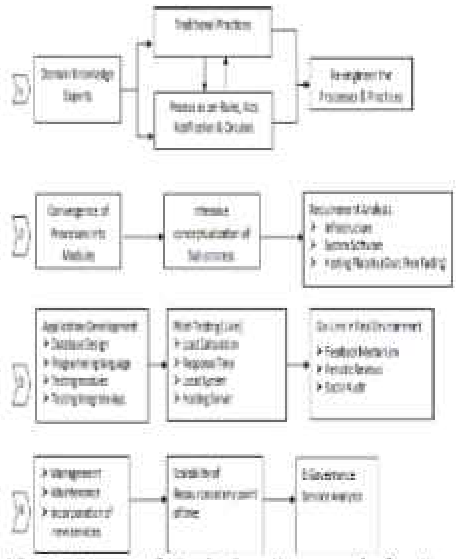

Fig 1: Stages of Designing Framework for E-Governance Application

- Making cyber laws available to the public at the earliest s so as to enable IT systems and information documents being stored in the systems have the same legal validity as the documents stored today in the form of paper.
- Building infrastructure of power and all weather surface transport system to abridge the digital divide between the rural and urban India. Basic infrastructure such as software environment, Web Server, Data Base Server, Internet connectivity, Firewall etc. resources are to be made available to each department so that access through it then services could be delivered fast and without fail. A significant amount of time would be saved and could be focused on main application to deliver the services.
- Requirement Analysis is to be done in terms of application load, number of hits per unit of time, response time, DR site, application environment and security audit of application etc.
- Professional manpower up to certain period of time may also be provided at the user end to start using the e-Governance services. National cloud through which the government becomes able to support applications and services must be made available. Almost all the initiatives under „Digital India' campaign are supported through the cloud. Alternatively, Department may be facilitated to place their servers at Central Data Centre for proper environment and maintenance, this is called as Co-lection. These two solutions to store huge amount of data will boost up department initiatives with regards to service delivery. Developing the ambience for e-government: Positive environment needs to be developed to meet the vision of successful implementation of e- government projects. This environment may either be internal or external .

Implementation of E-Government Projects - Then finally the e-government projects must be implemented. This is the final step of the conceptual framework.

II. CONCLUSION

E-Governance offers an opportunity for government organizations to re-invent themselves, get closer to the citizenry and forge closer alliances with varied communities of interest, practice, expertise, conviction and inter-dependence within the context of national development agendas. As an emerging practice, e-governance seeks to realize processes and structures for harnessing the capabilities of ICTs at various levels of government and the public sector and beyond, for the purpose of establishing good governance. The route to e-governance is only now emerging, as governments and citizens across the world try and learn to exploit, new media and the new information technologies.

E-Governance evolves new way of leadership, debating, deciding strategies, using services, new ways of doing business transactions, new ways of accessing education, new ways of listening to citizens and diverse communities and new ways of organizing & delivering information. As a concept, e-governance can be perceived to be inclusive of e-Democracy, e-Government and e-Business. Government Process Re-engineering using IT to simplify and make the government processes more efficient is critical for transformation to make the delivery of government services more efficacious across various government domains and therefore needs to be implemented by all Ministries/ Departments.

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INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT,
ENGINEERING AND SOCIAL SCIENCES
ISSN: 2349-7793 Impact Factor: 6.876., Volume: 14 Issue: 07 in July 2020

"Impact Analysis of Digital Marketing on Dental Health Care Practices in Jaipur, Rajasthan: *A Vis a Vis study*"

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ABSTRACT

With the introduction of the first commonly used commercial websites in the 1990s, digital technology brought a new level of convenience to consumers. Digital revolution had altered and admired elemental of commerce and continues to deplete a greater share of the entire marketing budget each year. As digital technologies and artifices derive, this amplitude should continue to like. While much analysis has been directed on digital marketing, most has been centralized on industries other than dentist healthcare. An aim of dental health advisement is to appraise connections and motivate individuals to pay assiduity to general dental concerns and to choose definite dentists, with best hospital and clinical ableness. Dentists in particular and health care organizations need to familiarize themselves with the most efficacious ways to reach people of all ages. This research endeavor seeks to be one such study by investigating the effectiveness of digital marketing practices particularly in dental practices on the population in the area of Jaipur, Rajasthan. The aim of this research is to provide an understanding of the new and dynamic channels of digital marketing of dental practices directed towards positive marketing outcome which in turn results in successful dental clinics. The survey questionnaire was deployed via an online tool (Google Form) through Survey Monkey and was promoted to 100 respondents' i.e dentists and dental hospital marketers for three weeks. Various factors of digital marketing and their influence analysis were conducted on respondent's opinion, which was further statistically analyzed. Significant "p" value postulated that the hypothesis H_1: There is a significant relationship between digital marketing and dental practices in Rajasthan was accepted and proved. Finally the research concluded that for dental practices, digital marketing represents an opportunity to engage current and prospective patients more easily than ever before. Practices that incorporate digital marketing such as social media into their marketing efforts will be strategically positioned to grow the business graph of dentists up to apex. Dental practitioners actively use digital marketing and social media for marketing and communication. Thus, this research paper would provide valuable information for decision makers and marketing teams at dental hospitals.

Key Words: - *Dentists, Digital Marketing, Social Media Marketing, Facebook, Twitter, Patient*

ISSN 2349-7793 (online), Published by INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES., under Volume: 14 Issue: 07 in July-2020
https://www.gejournal.net/index.php/IJRCIESS

1. INTRODUCTION:

Hospital and healthcare marketing has traditionally been disdained in the past because it was, by and large, abounding. Due to a shortage of doctors and medical necessities, hospitals have always been overpopulated, with outpatient clinics impossible to reserve into, and a severe shortage of hospital beds. In recent years, due to the increase in the number of hospitals uniquely dental clinics, dentists are ensuring bouncing competition in the medical environment; rise in alertness of the consumer concept; the growing complicated doctor-patient relationship; and increasingly serious legal difficulties dental hospitals are facing; these hospitals have bend to marketing, promotion, and advertisement to ensure their endurance. Currently, most dentists still mainly use their Public Relations board to communicate with consumers and conduct marketing activities (***Chang etal, 2000***).

There are various kinds of hospital, specifically dentists marketing promotion techniques, for example: free medical buzz session, referral by friends and relatives, free clinic treatments, mass mailings of clinic schedules to abeyant customers, TV & newspaper exposure, and education in public health and hygiene. Which kind of commercing promotion works best in bringing customers, setting up good image, and developing word-of-mouth, really depends on the type of consumer targeted, and is a subject of great deportment for dentists and hospital managers who want to amend their combativeness and profitability. (***Gupta S.L. etal ,2005***)

The last couple of years have seen a giant jump in the preference of digital commercing over traditional marketing in the healthcare specifically dental practices. Since consumer marketing tricks are budging greatly to digital ads, social media, and mobile apps, therefore, the shift to digital channels in the healthcare industry is no wonder. This shift has, for the most part, been highly beneficial; digital channels offer many more aiming and measurement options than traditional approaches, making accusation spend much more efficient.

The main reason is a numerous number of people are not only becoming active online but are also looking for elucidation to their complications online. This being the case, dentists and dental hospitals cannot or in fact should not neglect digital marketing. It is safe to assume that digital marketing combined with dental practices has a pool of opportunities in it.

Digital Marketing is the art and science of selling products and/or services over digital networks, such as the Internet and cellular phone networks. The art of digital marketing includes finding the right online marketing mix of strategies those appeals to one's target market and will actually translate into sales.

ISSN 2349-7793 (online), Published by INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES.,
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https://www.grjournal.net/index.php/IJRCIESS

Digital marketing uses internet to convey promotional marketing messages to buyers. It includes email marketing, search engine marketing, social media marketing, many types of display advertising (including web banner advertising), and mobile advertising and more. Since digital marketing is a cheap as well as an effective way of marketing when compared to traditional methods, it can be assumed that dental hospitals and dentists cannot miss out on digital marketing. ***(Aaker, D.A etal, 2003)***

People are active on social media and social media is same as to 'word of mouth' marketing. This type of marketing plays a big role in promoting dentists practice. For eg if many people around you, recommend an XYZ dentists, you are more likely to consult that doctor. Digital marketing involves social networking sites, such as Facebook, LinkedIn and Twitter. It also includes YouTube, blogs, customer reviews and wikis.

This paper seeks to be one such study by investigating the effectiveness of digital marketing practices particularly in dental practices on the population in the area of Jaipur, Rajasthan. The aim of this research is to provide an understanding of the new and dynamic channels of digital marketing of dental practices directed towards positive marketing outcome which in turn results in successful dental clinics. Thus the research endeavor will act as a founding stone in order to provide a basis for future policy recommendations of dental marketing. In doing so, this paper would provide valuable information for decision makers at dental hospitals.

2. REVIEW OF LITERATURE

Kevin D Dayaratna, (2013) In this literature analysis of the erudite inquest suggests that- Healthcare in a ambitious markets offer patients high quality care at reasonable price. The health benefits program of employees and Medicare part which provides as two effusive examples in today's competition of healthcare. To add proper converts for further scope of competition in healthcare industry would be important for future rise and position as world's leader for healthcare.

Agnes jarlier & Suzane Charvert Protat (2000) in this study, the researcher had convey a observational study on marketing of health care" which can improve quality care and lesser the hospital costs? in international journal for affirmation and marketing in healthcare". Their study revealed that, majority of hospitals carry out an aggressive marketing activities in form of corporate tie-up, trade and TPA tie up.

Flora June A, Lefebvre R(1998) had conducted cross sectional study on "Social health marketing and public health interference in health education quarterly", through formative research methods and

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https://www.gejournal.net/index.php/IJRCIESS

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES
ISSN: 2349-7793 Impact Factor: 6.876., Volume: 14 Issue: 07 in July 2020

technology, selected hospitals are quite settled with their existing product portfolio. Their study proved that, maintaining good relation with outside doctors, by bestow quality services, patient education and awareness programs about hospital through marketing.

Bobeica Ana Amaria(2013) In this study of academic analysis, the researcher has suggested "marketing plan in healthcare industry" analyses the healthcare markets in order to achieve better results serves on internal organization structure which shows the direct connection between marketing strategy, promotion strategy, quality of healthcare and market planning. Where these methodologies used to propose a model of analysis between 4 selected variables and structural equation model used which results as a base for a future analysis in health care marketing planning have a direct impact on quality of healthcare and market planning.

There is an quick need for analyzing the dental manpower of the country so as to study the scope of dentistry in the upcoming years, since we are proceeding into the next era (Ahuja and Parmar, 2011).

Social Media is slowly taking over traditional print methods as the primary channel for marketing and advertising purposes. And, social media has a strong impact on the strategic marketing practices of hospitals (***Revere et, al, 2010).*** Today, consumers use the Internet as the primary tool to find information about potential healthcare providers and the quality of each facility (***Revere, 2010***).

Since there are so many consumers relying on the Internet, website design has an important role in the satisfaction of current and potential consumers. If the website is difficult to grasp and simple tasks such as "find a doctor," "locations," and "services offered" are complicated to find, a consumer may feel dissatisfied and lost when choosing a facility (***Robeznieks, 2011***).

However, accumulating health communication through social media, via the Internet, can cater future patients with testimonials of success stories (***Scammon, 2011***).

Patient portals are a new commercing strategy used for physicians and health care corporations to communicate with patients (***Robeznieks, 2011***). Marketers create online gateways as an creative way to give patients approach to their test results, medical bills and doctor's schedules. Not only can patients choose adroitness and access medical information, websites now allow physicians to introduce themselves online through video profiles, and provide educational materials such as brochures and newsletters (***Robeznieks, 2011***).

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A recent study by Capstrat-Public Policy Polling surveyed U.S. adults and found that 85 percent would not use social media or quick messaging channels for medical articulation if their physicians offered it, (***PT in Motion, 2011***). The research also found that only 11 percent of litigants said they would take advantage of social media such as Twitter or Facebook to communicate with their physician, (***PT in Motion, 2011***).

In addition to that finding, according to the National Research Corporation, only one in five Americans now use social media web sites as a source of health care information (***PT in Motion, 2011).*** The survey, however, also found that one in two respondents said that they preferred health provider sites to any other antecedent, while 14% preferred an integrated approach of health provider sites and social media collobrated. Only 3% preferred only social media (***PT in Motion, 2011***).

3. RESEARCH METHODOLOGY

RESEARCH METHODOLOGY	
Objectives of Research	• To elucidate various factors which influence successful implementation of digital marketing on in promoting market for dental hospitals. • To analyze the impact of digital marketing on dental practice in Jaipur, Rajasthan.
Null Hypothesis of Research	H_0: There is no significant relationship between digital marketing and dental practices in Rajasthan.
Research Design	Exploratory – To know the parameters and formulate the hypotheses. Analytical – To analyze the parameters found out.
Universe	Jaipur, Rajasthan
Sampling Design	Stratified Random sampling Method
Sample Size	Dental Practioners (Dentists) of Jaipur district, Rajasthan. (Sample Size= 100)
Data collection Techniques	Primary Data collection – The survey questionnaire was deployed via an online tool (Google Form) through Survey Monkey and was promoted to dentists and dental hospital marketers for three weeks. Secondary Data Collection – Research reports of Health care companies, Annual reports, Management and dental books, journals, research papers etc.
Analytical tools For Pilot Study	Cronbach's alpha for reliability and Kaiser Meyer's Rank Test for Variability
Statistical Analysis for hypothesis testing	Chi Square Test, Multivariate ANOVA, Students't' test.

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT,
ENGINEERING AND SOCIAL SCIENCES
ISSN: 2349-7793 Impact Factor: 6.876., Volume: 14 Issue: 07 in July 2020

4. RESULTS AND ANALYSIS

4.1 DEMOGRAPHIC DETAILS OF RESPONDENTS

Demographic study means study of both quantitative and qualitative aspects of selected human population. Quantitative aspects include composition, age, gender, size, and structure of the population. Qualitative aspects are the research specific factors such as management of digital marketing of dental practice, etc. Demographic variables of current research study are evaluated in table 1 below.

TABLE 1 DEMOGRAPHIC DETAILS OF DENTISTS AS RESPONDENTS

Sample characteristic	Category	No of Respondents Dentists (N=100)
Gender	Male	69
	Female	31
Age Group (Years)	25-30	16
	31-35	22
	36-40	39
	41-45	12
	Above 45	11
Educational Qualifications	B.D.S	33
	M.D.S	65
	Any Other	2
Monthly Income (Rs)	10000-50000	19
	50000-100000	42
	100000-200000	29
	Above 200000	10
Dental Practice Experience	Less than 3 Years	17
	3 to 10 Years	68
	More than 10 Years	15
Specific Kind of Dental Practice	General Dentistry	54
	Pediatric Dentistry	12
	Endodontic	11
	Orthodontic	23
Marital Status	Married	76
	Unmarried	24
Profession of Spouse (If married)	M.B.B.S. Doctor	21
	Dentist	39
	Any Other	40
Do you manage your own website	Yes	83
	No	17
Management of Digital Marketing	Dentists (Owner) himself	31
	Marketing or office manager	45
	Dental Hygienist	16
	Any Other	8

ISSN 2349-7793 (online), Published by INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES., under Volume: 14 Issue: 07 in July-2020
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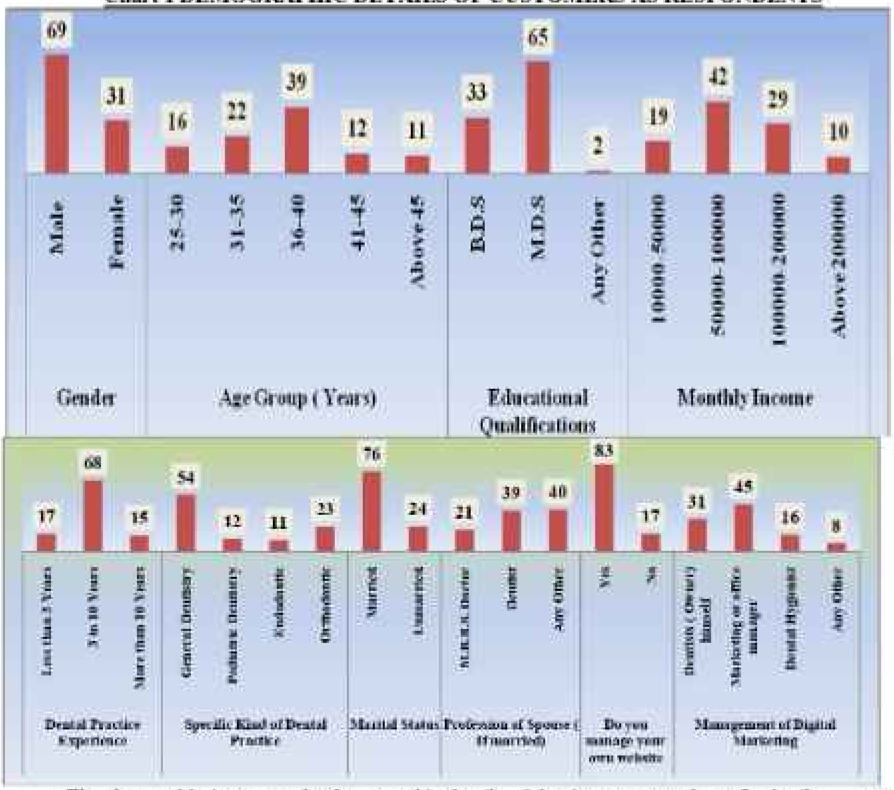
Chart 1 DEMOGRAPHIC DETAILS OF CUSTOMERS AS RESPONDENTS



The above table interprets the demographic details of dentists as respondents. In the first parameter gender of respondents were analyzed. Maximum respondents i.e 69% were males whereas only 31% of the females dentists of Jaipur , Rajasthan were evaluated in current research design.

In the next important parameter the age group of dentists as respondents was evaluated. The maximum respondents 39% were between the age group of 36 to 40 years whereas the minimum respondents were above 45 years of age. The remaining 16 respondents were between 25 to 30 years of age whereas 22 respondents were between 31 to 35 years of age. The rest 12 respondents were between 41 to 45 years of age.

In another parameter the educational qualification of respondents were analyzed. Most of the respondents 65% were having M.D.S degree whereas 33% were having a B.D.S degree. The remaining

2% were having degree other than these two qualifications.

Another important parameter was Monthly income of respondents who were dentists. Maximum respondents 42% were having a monthly income of 50000-100000 whereas the minimum respondents 10% were having a monthly income above 200000. The remaining 19% and 29% were falling into the category between 10000-50000 and 100000-200000 monthly.

In next parameter the dental practice experience of respondents were evaluated. It is clear that maximum respondents 68% were having an experience of 3 to 10 years whereas the minimum respondents 15% were having more than 10 years of experience. The remaining 17% were having less than 3 years of experience.

One more parameter was the specific kind of dental practice carried out by the respondents. Maximum respondents 54% were practicing general dentistry whereas the minimum respondents 11% were Endodontic. The remaining 12% were practicing Pediatric Dentistry whereas 23% were Orthodontic. Another parameter was the marital status of respondents where maximum respondents 76% were married whereas only 24% were unmarried.

In another parameter the profession of dentist's spouse was analyzed. Maximum respondent's spouse 39% was dentist whereas 21% were doctors in other specialization. The remaining 40% were working in other profession. Another parameter was whether the respondents manage their own website or not. It can be analyzed that 83% of the respondents were managing their own website whereas only 17% were not having their own website.

In the last parameter the management of digital marketing by respondents were evaluated. Maximum respondents 45% were having an office manager whereas 31% were owner themselves for digital marketing. The remaining 16% were having Dental Hygienist whereas 8% were having other sources.

4.2 RELIABILITY AND VALIDITY

a) Bartlett's Test of Sphericity

KMO is a Statistics, used to predict the sampling adequacy based on correlation and partial correlation. The KMO value varies from 0 to 1.0 The Bartlett's test of Sphericity should be greater than 0.5. It is used to show the validity and suitability of the responses collected.

The KMO value was found to be 0.895, shows a excellent level of acceptance. The overall KMO value should be greater than 0.5 to proceed with the factor analysis.

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b) Cronbach's Alpha

Cronbach's Alpha test is used to measure the internal consistency of reliability. In current research endeavor the alpha value obtained was 0.910. The Alpha value is greater than 0.75, which shows a very good level of acceptance, hence it is reliable.

4.3 ANALYSIS OF INFLUENCING FEATURES OF DIGITAL MARKETING ON DENTAL PRACTICES

In current research digital marketing factors that influenced dental practices was analyzed for selected respondents. Results are depicted in table 2 below:

TABLE 2 –DIGITAL FACTORS INFLUENCING DENTAL PRACTICES

S.No	Factors Influencing	Respondents Opinion(N =100)	
		YES	NO
KIND OF DIGITAL MARKETING PLATFORM UTILIZED			
(a)	Practo	76%	24%
(b)	Just Dial	89%	11%
(c)	Facebook	92%	8%
(d)	Twitter	22%	78%
(e)	Any Other	36%	64%
FREQUENCY OF USAGE OF DIGITAL MARKETING PLATFORMS			
(a)	Daily	67%	33%
(b)	Twice a week	74%	26%
(c)	Weekly	31%	69%
(d)	Fortnightly	8%	92%
(e)	Any Other	5%	95%
SHARE OF DIGITAL MARKETING BUDGET TO ANNUAL MARKETING BUDGET			
(a)	Less than 25%	68%	32%
(b)	25 % to 49%	39%	61%
(c)	50% to 74%	12%	88%
(d)	75% to 100%	0%	100%

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT,
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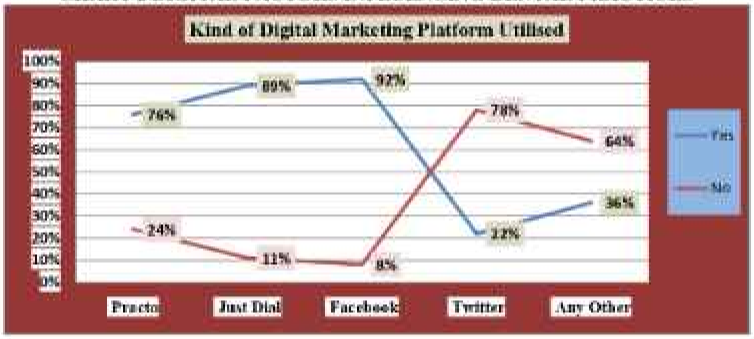
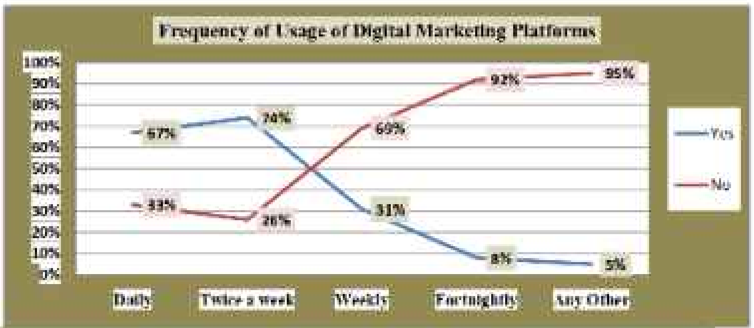
ISSN: 2349-7793 Impact Factor: 6.876., Volume: 14 Issue: 07 in July 2020

CHART 2 DIGITAL FACTORS INFLUENCING DENTAL PRACTICES





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In the above table the digital factors influencing dental practices were analyzed. Firstly, the kind of digital marketing platform utilized were evaluated. Around 76% were using Practo whereas 24% were not using it. In the next factor almost 89% were using Just dial whereas 11% were not using it. Facebook was used by 92% whereas only 8% of the dentist were not using Facebook. In case of twitter only 22% were using it whereas 78% were not having a twitter account. Only 36% were into other platforms whereas 64% were not. It can be analyzed that comparatively facebook was used by most of the respondents whereas twitter was used the minimum.

Secondly, the frequency of usage of digital marketing platforms by dentists were examined. In the first statement 67% respondents used marketing platforms daily whereas only 33% were not using it daily. 74% were using marketing platforms twice a week whereas 26% were not. Only 31% were using marketing platforms weekly whereas 69% were not. In the next statement only 8% were using marketing platforms fortnightly whereas 92% were using more than that. In the last statement only 5% were using it in any other way whereas 95% were not.

Lastly, the share of digital marketing budget to annual marketing budget was analyzed for dentists as respondents. In the first statement around 68% agreed that their share of digital marketing budget to annual marketing budget was less than 25% whereas 32% disagreed. In the second statement 39% respondents agreed that their share of digital marketing budget to annual marketing budget is between 25% to 49% whereas 61% disagreed. In the third statement only 12% respondents agreed that their share of digital marketing budget to annual marketing budget was 50% to 74% whereas 88% disagreed. In the last statement no respondents agreed that their share of digital marketing budget to annual marketing budget was 75% to 100% whereas all the 100% respondents disagreed because no one put their whole income into marketing.

4.4 ANALYSIS OF TWO DIGITAL MARKETING IMPACT

Impact of digital marketing on dental practices was analyses by the respondents and results are expressed in table 3 below:

TABLE 3 –IMPACT ANALYSIS OF DIGITAL MARKETING

Q.No	DIGITAL MARKETING ANALYTIAL FACTORS	Respondents Opinion (N =100)				
		SA	A	N	D	SD
	PURPOSE OF USING DIGITAL MARKETING SITES					
(a)	Advertisements of Services	16	36	12	22	14
(b)	Oral Health Promotions	19	31	11	23	16
(c)	Interaction with existing patients	18	29	15	27	11
(d)	Social Presence	15	33	13	22	17
	INFLUENTIAL EFFECT OF DIGITAL MARKETING ON BUSINESS					
(a)	Public Influenced and Business increased	16	29	17	25	13
(b)	Only Public Influenced	17	31	12	29	11
(c)	Neither increased not decreased business	15	36	9	24	16
(d)	Public get negative influence	13	17	15	37	18
(e)	Negative influence and decrease in business	9	22	13	35	21

{SA= Strongly Agree, A=Agree, N=Neutral, D= Disagree, SD= Strongly Disagree.}

The above table analyses the impact of digital marketing where the first factor was the purpose of using digital marketing sites by respondents. In the first statement around 36 respondents agreed and 16 strongly agreed that they use digital marketing for advertisements of services whereas 22 disagreed and 14 strongly disagreed the statement. The remaining 12 respondents had a neutral view on the statement. In the next statement around 31 respondents agreed and 19 strongly agreed that they use digital marketing for oral health promotions whereas 23 disagreed and 16 strongly disagreed to it. The rest 11 remained neutral on the current statement. In the third statement almost 29 respondents agreed and 18 strongly agreed that they use digital marketing to interact with existing patients whereas 27 respondents disagreed and 11 strongly disagreed to it. The remaining 15 had a neutral view on the statement. In the last statement 33 respondents agreed and 15 strongly agreed that they use digital marketing for social presence whereas 22 disagreed and 17 strongly disagreed to the statement. The rest 13 respondents remained neutral on the statement.

The second factor of the table was the influential effect of digital marketing on business. In the first statement around 29 respondents agreed and 16 strongly agreed that after digital marketing the public influenced and their business increased whereas 25 respondents disagreed and 13 strongly disagreed to the statement. The remaining 17 respondents had a neutral view on the current statement. In the second statement almost 31 respondents agreed and 17 strongly agreed that after digital marketing only public was influenced whereas 29 respondents disagreed and 11 strongly disagreed to the statement. The rest 12 respondents remained neutral on the same. In the third statement 36 respondents agreed and 15 strongly agreed that after digital marketing their business neither increased nor decreased whereas 37 disagreed and 16 strongly disagreed the statement. The remaining 9 respondents had a neutral view on the same. In the fourth statement around 17 respondents agreed and 13 strongly agreed that after digital marketing the public get negative influence whereas 37 respondents disagreed and 18 strongly disagreed to it. In the last statement around 22 respondents agreed and 9 strongly disagreed that after digital marketing their business decreased whereas 35 respondents disagreed and 21 strongly disagreed to it. The rest 13 respondents remained neutral on the statement.

HYPOTHESIS TESTING

In current research study on table 3 3 the values were statistically analyzed above Likert's scale values with one way ANOVA by using SPSS and results are as mentioned :

ANOVA							
GROUP			Sum of Squares	df	Mean Square	F	P Value (Sig)
DIGITAL MARKETING FACTORS	PURPOSE OF USING DIGITAL MARKETING SITES	Between Groups	1.472	5	.294	1.010	.035
		Within Groups	58.610	5	.272		
		Total	60.082	5			
	INFLUENCIAL EFFECT OF USING DIGITAL MARKETING SITES	Between Groups	5.322	5	1.064	3.746	.059
		Within Groups	57.118	5	.284		
		Total	62.440	5			

Respondents opinion were statistically analyzed with One Way ANOVA with the help of SPSS Software and the obtained P value was highly significant therefore the results concluded that null

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT,
ENGINEERING AND SOCIAL SCIENCES
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hypothesis H_0 - There is no significant relationship between digital marketing and dental practices in Rajasthan is rejected and alternate hypothesis which states that H_1 - There is a significant relationship between digital marketing and dental practicea in Rajasthan is accepted and proved.

5. CONCLUSION AND RECOMMENDATIONS

Technology is spreading rapidly throughout the field of healthcare including dentistry. The use of the internet in some form has almost become a standard for a dental practice to function. Not surprisingly most practices using the internet have websites, but almost all of responding practices are using digital marketing techniques. The results of the survey show that dentists use digital marketing including social media as much or more than the medical field. Not surprisingly; younger dentists were more apt to use digital marketing than their older colleagues and therefore is may be inferred that digital marketing use will continue to increase as older dentists retire and their younger colleagues purchase practices. As more practices are using digital marketing to reach the new generation of dental consumers it will force more practices to use the modality to stay competitive.

Interestingly, the utilisation of digital marketing technology being generally in the smaller conventions reflects the original bound of many social networking sites where solos are able to contact and keep in touch. That may be why smaller practices are making the use of this as they be biased to be more personal than higher corporate practices. When promoting or advertising dental hospital services, it's important to focal on advantages for the patients, and include physician's specialty for the last part. While it's important to note the professionalism of the dental hospital's staff, most patients are just abstracted to certain doctor's stipulation and focal more on the information of disease cured.

By digital marketing of the dental healthcare facility, dentists not only create awareness about their dental hospital, but it also earns the trust from the present and future patients. Patients that are evaluated at particular dental hospital with good payback, afterwards on becoming a free brand voice for the facility they've been treated, which can abate general marketing spend, as this becomes a criterion marketing tool. Practicing marketing applications digital saves more money and begets better ROI for dental healthcare facilities in the modern day and age. Social media is extremely popular among all digital marketing tools. In fact, Facebook and many other podiums continue to add millions of consumers annually. For dental practices, social media represents a contingency to engage current and destined patients more easily than ever before. Practices that assimilate social media into their marketing aspirations will be strategically arrayed to built in the digital curltailment.

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Various factors of digital marketing and their influence analysis were conducted on respondent's opinion, which was further statistically analyzed. Significant "p" value postulated that the hypothesis H_1: There is a significant relationship between digital marketing and dental practices in Rajasthan was accepted and proved. Finally the research concluded that for dental practices, digital marketing represents an opportunity to engage current and prospective patients more easily than ever before. Practices that incorporate digital marketing such as social media into their marketing efforts will be strategically positioned to grow the business graph of dentists up to apex. Dental practitioners actively use digital marketing and social media for marketing and communication. Thus, this research paper would provide valuable information for decision makers and marketing teams at dental hospitals.

Few limitations of the research were focused such as the use of modern survey using an electronic survey tool. The sample used for this survey may have under sampled those who do not use digital marketing, therefore skewing the results of the prevalence of the use of digital marketing on dental practices. Future studies should seek other ways of sampling a more representative sample. Research should continue on this subject to understand the best way to utilize digital marketing and to understand its full potential.

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ISSN 2349-7793 (online), Published by INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES.,
under Volume: 14 Issue: 07 in July-2020
https://www.gejournal.net/index.php/IJRCIESS

International Journal of Business Economics and Management Research
Vol. 11, Issue 10, October 2020 Impact Factor: 6.857 ISSN: (2229-4848)
www.skirec.org Email Id: skirec.org@gmail.com

IMPACT OF NOVEL DIGITAL MARKETING STRATEGIES ON CONSUMERS PURCHASE BEHAVIOUR

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ABSTRACT

Digital marketing is wide-based and includes developing business strategies leveraging emerging technology that raising expenses and grow industry internationally in a highly competitive environment. Rapid technology advances, the usage of digital marketing, social network ads, web browser marketing are also on the rise. Digital marketing is utilized for advertisers to promote goods & services on the market. Digital marketing has an imperativepart to escalating the distribution of goods and services. The purpose of this investigate is to examine the impact of digital media and whether it is an imperative tool for both marketers & consumers. We have explored the effect of Digital media as well as its impact on the customer's buying behavior. This study was performed on the basis of a structured questionnaire for primary data as well as a sample size of 100 respondents.

KEYWORDS-*Digital Marketing, Consumer Behaviour, Promotion, Marketing Communication, Consumers Purchase, Rajasthan*

1. INTRODUCTION

Digital marketing is defined as the buying and selling of content, digital marketing is the use of platforms to meet the target audience through any of the subsequent platforms: social networking, blogs, multimedia advertisement, online search engine commercials, e-digital marketing (polls, gaming, mobile marketing) Digital marketing is considering a modern type of marketing. Marketing activities undertaken through digital platforms allow marketers to connect

International Journal of Business Economics and Management Research
Vol. 11, Issue 10, October 2020 Impact Factor: 6.857 ISSN: (2229-4848)
www.skirec.org Email Id: skirec.org@gmail.com

directly with potential customers at a rapid rate, regardless of their geographical position. Online marketing has recently been described as one of the easiest ways to deal with the confusion and interact directly with the customer. As a consequence, with a move towards targeted, One-to -one contact, enhanced understanding is compensated with the usage of digital control as a means of effective consumer marketing. Digital marketing is a modern phenomenon when it comes to digital channels. The Indian smart phone market is among the greatest developing markets owing to the rise in the numeral of middle-income consumers & estimated to reach millions of users in the next generation. investigate on digital promotion advertisements will also have a significant effect to the way business is conducted. The improvement& pervasive usage of internet tools has altered the way culture communicates with both its daily &specialized existence. The introduction of modern interactive technologies one of the most significant measures of this transition. New communication technologies arising from technology development are labeled "internet marketing." Once we speak of digital channels, what came to mind are Facebook, Twitter, Instagram or specific social networks which use online and web techniques including forums, micro blogs and search engines. With both the advent of modern messaging to electronic channel clients, the networking methods currently accessible are now being considered "traditional interaction devices." Traditional interaction devices include written (books, magazines, etc.), multimedia (television, film, etc.) and auditory (radio) interaction devices.

1.1. DIGITAL MARKETING SCENARIO IN INDIA

India is the third highest Internet community in the country. Since the proliferation of the Internet, the Advertising Methodology has taken hold in order to communicate with the general population. The enormous growth that computerized marketing has shown can not be combined with any other method. Admiring the new scenario in India, individuals here are conscious of the Web as well as use it for various reasons in their everyday lives. Subsequently, there is a flourishing internet marketing industry in India. Throughout India internet networking is the driving force behind the misuse of computerized marketing. The shopping spotlight in India is rising both online and offline. India is a new maverick to the online shopping explosion, yet it is common for online purchases to grow by half every year over the next few years. The world is

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currently the third-largest Internet user nation with more than 120 million Internet customers and the rapid development of flexible exchange is required to increase the number of customers to more than 330 million by 2015. Web-based life is driving the growth of digital marketing. Progressively stable socio-economics of youthful internet-wise users devote additional time and resources digitally, and thus affect the inclination of their clients. Books, shopping devices, travel, money-related government, clothes and magnificence treatment are regular online items. Online shopping is taking place in huge urban metropolises, with Jaipur, Rajasthan being the main center preceded by Delhi and Kolkata. Significantly, trades are rendered in online commercial centers such as Snadpdeal, which was introduced in 2010. For now, the Web is only a minor part of India's GDP, but the hope is that the Internet explosion is just around the corner for retailers.

Indian youth will obey strong moral and family ideals and devote their entire time and commitment to research and job. Career, schooling, thus, must be the primary goal of a pupil. Indian youth is a strong consumer group that drives manufacturers to do what they want. This research assesses the degree to which young people play a part in direct the marketer. The research would be valuable for the salesperson to establish communication campaigns to reach the existing and future youth audience of the goods under research. During to the National Youth Policy-2014, the report would include all young people in the 15-29 year age category, which is 27.5 per cent of the population according to the 2011 Census, i.e. roughly 33 crore people.

1.2. IMPACT OF DIGITAL MARKETING ON CONSUMER BEHAVIOUR

Consumers have become researches Through convenient access to the Internet, users are now much more educated and motivated. Every day they are overwhelmed with digital content. With almost every company now marketing their products on digital platforms, it's more than easy for customers to check and compare online. Their choice to shop is strongly influenced by the connections they have with the company and other influencers online.

Digital word of mouth is the most trustworthy word of mouth used to be the most reliable source of advice that customers believed. In today's digital world, word of mouth is offered in terms of customer feedback, influencer suggestions, scores, testimonials, etc. Total customers will insure

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that they look at what current brand buyers have to suggest about the product / service before making their purchase decisions.

Customers are not afraid to experiment Consumers in the past few days have been very cautious about modifying the labels they have used all along. But with time, things have changed. Now, business thought has grown tremendously. They have become more open to products and brands that offer better quality than ever before. All this was feasible only through digital marketing, which made it easier for these new brands to reach out to consumers.

Consumers often switch brands Brand loyalty has been a big thing in the past. It's very unusual when you see customers change labels. Today, though, customers are able to switch brands, because the new one offers better apps. With a lot of options on the market, customer engagement is challenging and switching is fast.

Customers now have a high level of tolerance Ultimately, consumers today are not in a mood to negotiate or bargain in any way. We expect an immediate response to their questions and concerns, if any. We publicly share their thoughts and perspectives on digital platforms that can make or break the reputation of a company in seconds. Generally, users tend to believe in bad news / feedback readily and only a handful actually share positive reviews. However, a number of rivals exploit this by posting negative comments on their company sites from fake accounts. This can be done through a strong online reputation management (ORM) approach, where experiences with customers will potentially turn a negative image into a favorable one

2. LITERATURE REVIEW

NaseethAhamedNizar et al. (2018) The purpose for this analysis is to consider the effect of online existence marketing on the consumer's buying option. The goal of this analysis is to define the word web-based life marketing and consumer purchasing behaviour, to complete a written survey on customer buying activity and the effect of online networking, to perform critical research with the aid of surveys and meetings on the influence of internet-based life ads and consumer sales, and to audit discoveries. This research relies on the study approach, since the experiment was distributed to collect input from citizens in general to investigate the effect of web-based life marketing on customer purchasing behaviour. 184 reactions were constructed

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from the scattering of the google structure summary. For the same manner, the conference was guided to an alternative perspective as measured. The conference was conducted by the three interviewees in Dialog Axiata. In fact, the usage of diary posts by former researchers has often contributed to critical analysis. In fact, the knowledge for this analysis was dissected using the IBM SPSS calculation program. Right now, Alpha, Regression for Individual Factors, Correlation for both vulnerable and autonomous and distinct observations where established by using the SPSS tools for this study. The principle that has been established for this research has been accepted. Across the same manner, there was a notable constructive interaction characterized right now by allowing the analysis to show its general interest. This analysis aims to resolve the problems of expertise of the papers of question. In fact, this study draws on a somewhat more practical and less complicated method for developing web-based social networking content in order to forecast customer purchasing behaviour.

Diyana Ahmed Ghazie Et al. (2018) Everybody on the web— in reality, everybody is online today. These days, the Web has proved to be the most significant tool, especially for digital marketing, in their marketing cycle for the selling of products and administrations. This is because it aims to save a ton of time, prices and more. The goal of this analysis is to understand the behavior of consumers against digital selling in Malaysia. In an attempt to identify the huge, awareness and content of customer adequacy of digital marketing, a general written examination was performed. Through utilizing critical knowledge (study) and auxiliary knowledge strategies, it allows researchers to differentiate between how to build a good brand understanding of customer behavior.

Simran Kaur et al. (2018) In the extraordinarily bad competition and creativity with the usage of the internet, the traditional industry has switched to digital marketing strategies. Digital marketing snatches a broad region and requires the analysis of a course of action using emerging technologies that minimize prices and improve sales across the globe in a highly bad industry. Online marketing today has a more substantial degree of business success later on, because consumers become far more pleased with buying digitally because they find digital marketing substantially more efficient than traditional marketing. Online marketing allows consumers the ability to evaluate the material about the item offered by the company and should be equipped to

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carry out an accurate analysis, so that they can understand the freedom to make a choice and can create a request anytime 24* 7 is open. With fresh developments and an improvement in the usage of the network dedication, the interconnectivity of customers is slowly increasing, as a consequence of which the behaviour of customers has changed and association can consider the conduct of consumers. This research analysis drills down the effect of digital media on the buying habits of customers.

Keerthi Krishna M et al. (2018) Online marketing is a communications strategy for the development of web-based goods. The digital marketing sector in India is distributed through nearly all company sectors. The speed of internet ads causes geophysical hindrances to disappear, rendering both future consumers and suppliers of Earth bust. It is renowned for its capacity to enable business to be dispersed and shared wherever and wherever it occurs. Apart from this, it also points forth the impact on the client's psychology on the purchasing of the piece. The explanation for the research is to acknowledge the feasibility and effect of digital media on the buying habits of consumers. Key details is required with the knowledge collection. The structured survey is used to collect important details and the sample size is 50 respondents. The findings of the inquiry show that the consumer is conscious of the new network and also all applications of the internet medium for the purchasing of goods. This test was performed in the chengannurtaluk district of Pathanamthitta.

R. Sunderaraj et al. (2018) In today's business world, marketing methods rely on collaboration among companies and customers. Promoting has been used as a standard corporate tool for handling fundamentally rapid technological shifts and, respectively, for strategic adjustments in today's severe markets, & administration method applies to re-analysisand re-planning of the errands and even aspects within &exterior the association. Publicizing the business is a social agency intended to serve the consumer needs to provide details on the accessibility of the products, the company and the administration. In addition, there has generally been a far-reaching reactionto promotion is type of correspondence intended to be misused by consumers. Furthermore, it is also regarded as providing a significant income role and company houses are named publicity sharing, who are producing a concluding method to swindle clients by misdirected advertising. The aim of the promotion is to consider the impact of the ad on the

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conduct of purchases. It is observed there is no association among the age of the respondents and the degree of the effect of the advertising and there is no correlation between other reward and the quality of the freebie at the time of purchase.

Khumar Sharma et al. (2018) Social networking started as an entertainment device at the outset, and later became a communications device thanks to its extraordinary advantages in the world of industry. In this article, we will address the idea of social networking, social network marketing and the social media approach, the benefits and drawbacks of utilizing social media marketing, the definition of customer purchasing intention and the effect of social media marketing approaches on customer purchasing intentions. As the growth of internet technologies and the enhancement of the e-commerce industry, online shopping is a brand-new consumer purchasing trend for consumers and attracts rising interest from the public. New communication technologies arising from technology development are labeled "internet marketing."

SamreenLodhi et al. (2017) The growth of developments in the corporate field of advertising is moving from newsletter and newspaper advertisement to other e-marketing platforms. The present companies have focused on the preparation of the web page for the promotion of their products, as opposed to the presentation of advertisements on TV, advertising, newspapers, articles and so on e-selling is the actual fate of promotion, is swifter, less exorbitant and offers reliable details on time. This research reveals that about 80-90 per cent of people are involved in online marketing practices, most of which take place on web media, because social network clients are not specific around sexual identity and age collection, so that anyone can see any kind of ad on any Facebook accounts. New clients are, for the most part, consuming products by clicking on the site sale instead of reading articles, magazines or watching T.V. When existing clients are no longer committed to companies, with the aid of the internet marketing agency, upgrade their merchandise or administrations to retain loyalty to their clients. To stay in today's business world, companies will accept e-ads, e-purchasing and e-offering, web-based finance offices to buy electronic goods, ATM cards, portable communication, and other other marketing tools. As the most notable accomplishment by any corporate company, the e-marketing type by publicity is quickly obtained because they have more color in e-marketing rather than ads on certain industry instruments. Thanks to the rise in e-marketing, e-purchasing and transactions,

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and as a consequence of e-purchasing and distribution of ATM cards and e-purchasing, e-shopping and e-marketing, they have achieved the best level of their growth.

Ugoing to et al. (2017) The study examined the effect of successful web-based advertisement, effective communications &promptly contact on the normality of visitors & customer interest of the three preferred online provisions in Owerri, Imo. It has been motivated by 6 study questions & six hypotheses. The sample size of 300 respondents was used for the details collection of two structured survey arrangements. Mean measures was used to measure the responses to the questions of the report, whereas the Z-test measurement has been used to verify the presumptions for this investigation. The Statistical System for Social Sciences (SPSS) software was utilized analyze the data. The result of the research have indicated to digital marketing is a feasible form of advertising contact that has a huge produce on the normality of travelers and consumer experience of online retailers. In the light of the results, it was stipulated that organizations should be credited with showcasing their goods and companies via web-based retailers and, in turn, with the development and dispatch of indigenous places where consumers may make transactions. In order to further check the effect of shopping pages on the actions of purchasers of electronic goods, more analyses will reproduce the concept and methodology commonly employed for various products and pages.

Ashamayee Mishra et al. (2016) examined the awareness, acceptance and influence of electronic commerce on the buyersbehaviour among the people in Odisha. Stratified sampling method was conducted for extracting sample size. Primary data collection method was used for data gathering through questionnaires. As the data collected was non-parametric, the data analysis was performed implementing the chi-square test at 5% significance. The findings of the study presented that the online shopping has created its popularity among the consumers particularly in business to consumer model (B2C). The authors suggested that for meeting and fulfilling the needs of the consumers, the retailers should attract and motivate the consumers so that they can be the purchasers in the online environment. To accomplish this target on a repeat basis, it is required to understand and comprehend the buying behaviour of the consumers. Few highlights of the study as provided and analysed by the authors were: the age group of 18-30 years is the most active in the usage of internet; both the gender uses the internet as per their

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requirement; there exists a strong relation between income and buying behavior; one can do transactions online despite of time and place.

MihaljBakator (2016) Understanding consumer behavior is one of the pillars for building a strong company. The ever-changing market puts a toll on organizations in a form of dynamic customer behavior. New products, new beliefs and overall society psychology require thorough examination of market segments and consumer demands. After analyzing customer behavior, organizations must realize a strong, flexible and effective marketing strategy which will ensure sales and profit. This is achieved with strategic planning and objectifying the targeted market segment.

Lakshmi. S (2016) With the growth of internet education, the likelihood of web marketing is growing. A significant percentage of people are browsing now and if they become possible internet shoppers. Because there are so vast quantities of vendors, the most crucial aspect for partnerships is to consider what the expectations and desires of the consumer are at the moment. Consumer buying habits are influenced by a number of influences, such as history, social status, community relation comparisons, ethnicity, work and wage equality, size, sexual preference and so on, thereby showing distinctive consumer behaviors. Such measures explain important online retail and consumer purchasing behaviour in online shopping.

Andrew T. Stephen et al. (2015) This report aims at late-divided customer studies in computerized and electronic life marketing environments. Five subjects are distinguished: I computerized society of shoppers; (ii) early advertising reactions; (iii) effects of electronic circumstances on the behavior of purchasers; (iv) dynamic situations; and (v) casual online (WOM). All things aside, these papers shed light from various perspectives about how customers view, influence and are influenced by the specialized circumstances under which they are structured as a significant feature of their day-to-day lives. Everything needs to be learned, so current knowledge would usually be excessively concentrated on WOM, which is only a bit of computerized customer experience. There are a few headings for potential work that allow experts to learn of a broader variety of wonders.

Dipti Jain (2014) By now, the statistics of online shopping as seen with customers in India are distinct &several segmental variables additionally considered to be the basic premise of the

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business division for retail. The primary purpose of this investigate is to understand the influence of perceived risk, perceived pleasure, apparent value and presumed comfort factors on customer online shopping behaviour in Delhi. The suggestions put forward right now help to promote the growth of Indian online selling in the prospect. Exploration searching also shown that the obvious danger negatively affects consumers desire to buy digitally while seeing comfort, seeing accessibility, and seeing satisfaction have little impact on consumers ' minds regarding online shopping.

Amit Kumar Singh (2013) Internet shopping has gained a huge role in the 21st century, as the overwhelming majority of consumers are active, filled with a robust calendar. In these situations, online shopping has been the least taxing and most suitable form of shopping. The Internet has transformed the system for the purchaser's market, which has rapidly becoming a regional point of view. An online store evokes the outward likeness of the buying of merchandise much as Internet store managers, and this purchasing practice is called online purchasing. The current article is based on presumption of conventional model actions. This paper evaluates the behavior and experience of Aizawl's online customers.

Sanjay Hooda (2012) This paper explores the main consumer's assets and similarities between them from the point of view of Emarketing. Effort was requested to investigate the speed of awareness of e-marketing amongst Jaipur buyers & itseffects on their choice of purchasing. Report reveals that persons that are unaware of age and sex access the internet. In either case, there is a vital distinction between the era and the features of online sharing, but there is no link to sexual preference. In spite of security issues, a substantial percentage of respondents are hesitant to purchase items over the Internet. The majority of respondents, irrespective of the sexual preference of various age groups (especially age-gathering between 18 and 30 years of age) consider e-shopping progressively beneficial and productive and lean towards Mastercard as an advantageous mode of payment. Article offers advice on optimizing conveyance and encouraging web-items and governments in order to meet the goals of e-marketing and e-commerce.

Srivastava Priyanka (2012) The internet networking platform is the item that all of the big proponents have been holding on for. We ought to get the Internet more and more known as TV

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promoters. All aspects considering, they ought to boost it from TV advertising: the visual effects of the normal conversation and extra knowledge calculation. The goal of the marketers is render their ads especially inclusive. Intuitive marketing helps customers to turn out to be gradually involved in the light of the reality that much of the action ends. Encounters should guide the brand's mentalities through this partnership. The significant tendencyare online marketing is increasingly shifting gone from the poster&brands are finding alternative ways by novel systems, like gaming and smart object shows in existing frameworks including walls, little girl walls and side cases. Input is one of the virtues of the Internet grounds, and a persuasive platform collects data from visitors in a careful fashion that can be exploited in a critical way. It's a kind of relentless study.

Halimi, AnahitaBagherzad (2011), evaluated the influence of culture on young consumer's intent towards online shopping in Malaysia. Malaysia is a cosmopolitan country having people from varied backgrounds settled in there, the most prominent being Malay, Chinese and Indian. The author here specially presented the buying pattern of consumers with distinct cultural backgrounds, as the individual culture based on values and beliefs influences the attitude and intentions of the user which in turn influences the buyer's decision making process. The research work targeted to aid the business firms to understand such cultural values and implement business strategies accordingly.

3. OBJECTIVES OF THE STUDY

1. To analysis the impact of Digital Marketing on Consumer buying behavior.
2. To analysis the awareness of Digital Marketing.

4. HYPOTHESIS OF THE STUDY

H_{01}: There is no substantial association among Consumer Loyalty and Product Purchasing by Digital Marketing.

H_{02}: There is no important association between monthly income & product choice to be bought via the Digital Network.

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5. RESEARCH METHODOLOGY

A quantitative questionnaire for the analysis of primary data is used to examine the effect of digital marketing on various criteria. Main details were collected from 100 respondents. Respondents are chosen from the Jaipur Region of Rajasthan. Primary data in a hierarchical format was obtained by direct questions of respondents, and achieved explicitly by the survey process.

Sample Size for this analysis is 100 participants who buy goods or services via a digital platform. The data was evaluated and the theory was checked using a mathematical method such as a chi-square check.

6. RESULTS AND INTERPRETATION

After collecting the data from the respondents with support of a structured questionnaire, the findings are translated as follows.

Responses from Online Buyers

Respondents were asked many questions regarding their age, monthly income, occupation, and so on. in order to clarify their profile and their responses. The following table is represented to bases of responses.

TABLE-1: RESPONSES FROM ONLINE BUYERS

	Category	No. of Respondents	Percentage of Respondents
Gender	Male	73	73%
	Female	27	27%
	Total	100	100%
Age	Below 18 Years	15	15%
	18-30 Years	28	28%
	31-45 Years	35	35%
	Above 45 Years	22	22%
	Total	100	100%
Profession	Employee	42	42%
	Business	25	25%
	Student	6	6%
	House-wife	19	19%
	Any other	8	8%
	Total	100	100%

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	Category	No. of Respondents	Percentage of Respondents
Monthly Income	Below 10000	38	38%
	10000-25000	24	24%
	25000-50000	10	10%
	Above 50000	28	28%
	Total	100	100%
Reason for Online Shopping	Easy Buying Options	35	35%
	Wide Variety of Products	22	22%
	Various Methods of Payments	17	17%
	Lower Prices	21	21%
	Other	5	5%
	Total	100	100%
Influence of Digital	Social Media	57	57%

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Channels to buy more	Websites	18	18%
	Emails	5	5%
	Advertising	16	16%
	Others	4	4%
	Total	100	100%
What kind of Product you would prefer to buy through Digital Channel	Convenience Goods	15	15%
	Shopping Goods	72	72%
	Speciality Goods	13	13%
	Total	100	100%

	Category	No. of Respondents	Percentage of Respondents
Customer Satisfaction in Purchase through Digital Channel	Strongly Agree	38	38%
	Agree	55	55%
	Neutral	5	5%
	Disagree	1	1%
	Strongly Disagree	1	1%
	Total	100	100%
From which Digital Channel you bought products	Social Media	21	21%
	Websites	51	51%
	Emails	8	8%
	Advertising	15	15%
	Others	5	5%
	Total	100	100%

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Chi Square Test: Relationship among monthly income & product preference to purchase via the Digital Network.

For research the association among monthly income or product preference for shop via the Digital Network, the Clubbed Table is as follows.

Table 2: Relationship among monthly income & product preference to buy during digital channel

	Convenience Goods	Shopping Goods	Speciality Goods	Total
Below 10000	7	29	2	38
10000-25000	4	18	2	24
25000-50000	3	3	4	10
Above 50000	1	22	5	28
Total	15	72	13	100

The details can be conveniently represented in table 2 above. Hypothesis checking is performed in order to more precise.

H_{01}: There is no substantial correlation among monthly income & decision of the company to buy from a digital market.

The approximate chi-square amount is 15,2929 depending on the calculation. The p-value is 0.01897. The outcome is significant at $p<0.05$, with a significance of 0.05. As a result, the null hypothesis is rejected & there is a significant correlation among monthly sales and the customer's option to shop through the digital channel.

Chi Square Test: Relationship among Consumer Satisfaction & Product Purchases during Digital Marketing

To analyze the relationship among Customer Satisfaction & Product Purchases across Digital Marketing, the Clubbed Table is followed.

Table3: Relationship between consumer loyalty and product purchasing by digital marketing

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Social Media	10	11	0	0	0	21
Websites	20	31	0	0	0	51
Emails	3	3	2	0	0	8
Advertising	4	8	2	1	0	15
Others	1	2	1	0	1	5
Total	38	55	5	1	1	100

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Vol. 11, Issue 10, October 2020 Impact Factor: 6.857 ISSN: (2229-4848)
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The data can be conveniently represented in table 3 above. Hypothesis analysis is performed in order to more precise.

H_{02}: There is no meaningful association between Consumer Loyalty &Product Purchasing by Digital Marketing. The estimated chi-square number is 41,459 according to the estimate. The p-value is 0.000475. The finding is important at $p<0.05$, via a significance point of 0.05.

The null hypothesis is denied, according to the preceding study. In other terms, there is a major connection between consumer loyalty and the purchasing of products across the Digital Network.

7. CONCLUSION

With the Research conducted, In digital marketing, recognizing customer behaviour is crucial to commercial performance because customers have adopted the usage of the Internet and online socializing technologies It has been observed that there is a connection among monthly income & goods they buy. Monthly People's Income playsan significant role in the purchasing of various products across the Internet Web. This has also been noted that there is a substantial gap in the degree of consumer service with the online buying of products. Many of the Consumers was pleased with the items bought by Digital Network. A business will achieve even better with digital media because it knows and implements what the customer wants.

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International Journal of Business Economics and Management Research
Vol. 11, Issue 10, October 2020 Impact Factor: 6.857 ISSN: (2229-4848)
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International Journal of Business Economics and Management Research
Vol. 11, Issue 10, October 2020 Impact Factor: 6.857 ISSN: (2229-4848)
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International Journal of Management (IJM)
Volume 11, Issue 12, December 2020, pp.3224-3232, Article ID: IJM_11_12_301
Available online at http://iaeme.com/Home/issue/IJM?Volume=11&Issue=12
ISSN Print: 0976-6502 and ISSN Online: 0976-6510
DOI: 10.34218/IJM.11.12.2020.301

E-GOVERNANCE PHASED SECURITY MODEL

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ABSTRACT

E-Governance is basically the use of internet expertise as a tool for exchanging information, providing services and transacting with people, businesses and other areas of government. E-Governance provides a sound approach to reinforce overall governance. It not only perk up accountability, intelligibility and effectiveness of government processes, but also smooth the progress of sustainability and inclusive growth. E-Governance also provides an instrument of straight delivery of public services to the trivial segments of the society in the remotest corners, without having to deal with mediators. This paper deals with analysis of the existing models and find out threats at each level and develop a new model to overcome these threats.

Key words: e-governance, security service, authentication, e-services, threats.

Cite this Article: Vani Jain, Devesh Bandil, Bright Keswani and Neha Paliwal, E-Governance Phased Security Model, *International Journal of Management (IJM)*, 11(12), 2020, pp. 3224-3232.
http://iaeme.com/Home/issue/IJM?Volume=11&Issue=12

1. INTRODUCTION

The idea of e-government started with the introduction of government websites in the early 1990s. The structure of government is flat, fixed hierarchical regulated, whereas web is dynamic, smooth and unregulated. Government's function is like enormous, where one hand does not know what the right hand is doing. With the advancement of Information Technology and increased reliance on the internet as a transaction medium to develop government websites into a highly potential channel for supporting a frontend and backend applications. E-government security is a key dilemma for every E-government systems. E-Government security models are used in the implementing and developing e-government security systems. The diverse security models are applied in different countries due to the deference situation of the countries. The five different models of e-governance, which can be applied for e-governance security system.

These models are:

Table 1

MODELS	DESCRIPTION
Broadcasting model	• Broadcasting model is a mass diffusion of government information which is already available in the public sphere using ICTs. • This raises responsiveness among the society about ongoing government processes and government services that are available to them and how they can advantage from them.
Comparative Analysis Model	• This model is least-used but a high potential e-governance model for developing countries. This model is used to authorize people by comparing good governance with the bad governance and then analyze, the reasons and people behind the bad governance, and how the condition can be improved. • The model is based on using vast capacity of ICT and social media to review the information given with comparable information available in the public or private sector.
Critical flow model	• The model is based on dissemination of information of 'critical' value to targeted viewers using ICTs and other tools. • Those who reveal such kind of information include upright officials and workers, whistleblowers, affected parties and those who were themselves involved in bad governance practices but have now changed their minds or may wish to deal such information for soft punishments.

E-Advocacy Model	• This is one of the most often used Digital Governance model and that come to the aid of the global civil society to impact on global decision-making processes. • The model is based on setting-up a planned, directed flow of information to build strong practical allies to complement actions of the real world. • Virtual communities are formed which share similar values and concerns, and these communities in turn link up with or support real-life groups/ activities for concerted action. • The potency of this model is in its multiplicity of the virtual community, and the ideas, expertise and resources accumulated through this virtual form of networking. • The model is able to assemble and influence human resources and information beyond geographical, institutional and bureaucratic barriers, and use it for intensive action.
Interactive Service model	• It is a consolidation of the other digital governance models and opens up potential for one-to-one and self-serviced participation of individuals in government processes. • The involvement is direct and not through representatives. • This model brings better objectivity and simplicity in decision-making processes, and provides a better feeling of involvement and empowerment. • Under this model, the diverse services offered by the Government become directly available to its citizens in an interactive Government to Consumer to Government (G2C2G) channel in various aspects of governance.

2. THE PHASES OF E-GOVERNMENT SECURITY MODEL

The phased structure of a model prevents our government from various categories of threats related to a single or multiple e-services. Each phase of a model will lessen the group of threats related to e-services. The five phases were selected as a part of any strong security programme. The phases are: the technical phase, the strategical phase, the proficiency phase, the operational and management phase, and the decision phase. The phases were constructed from the bottom to the top based on the importance of each level, the frequency of their implementation in government, and how they complement each other.

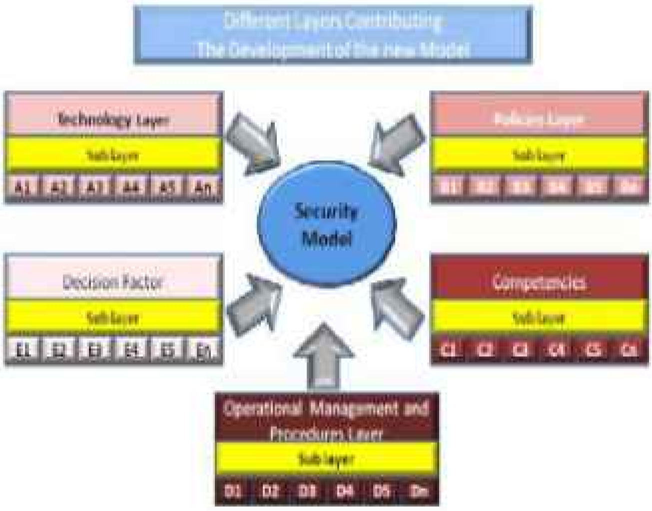

Figure 1 The five phases structuring the new security model

The concept behind this model is to analyze the security needs and requirements for any e-enabled government in order to permit or not to permit the exchange of information between each other in e-government. The new abstruct model is expressed as-

Figure 2 Pyramid phased model

In this model every phase is sub divided into multiple sub phases to make the structure more understandable and reliable. The splitting of phases into sub phases gives the model a flexibility to expand it into n-number of cells based on the needs of the government. The idea of having x-number of phases with y-numbers of cells in each phase and the combination of these phases with sub-phases provide a enhanced level of security that what we considers a "new secured model" or a "new secured approach".

The Extended Multi Phased Security Model						
Security Levels	**Sub Layers/Cells**					
Technical Layer						
Strategical Layer						
Proficiency Layer						
Operation Management Layer						
Decision Layer						

Figure 3 The matrix oriented model

2.1 The Technical Security Phase

The technical phase is subdivided into 12 sub phases that are as follows::

2.1.1 Right of entry Control

It is a mechanism of controlling entry . The control might be through prevention of unofficial entries, monitoring official entries, or limiting entries through predefined rules and roles. An e-government model will have a strong prerequisite of access control to the computer centers where governmental data are stored, government offices where staff handles the data, and even cables that carry the data between governmental departments.

2.1.2 Interruption detection and prevention

Interruption detection system (IDS) and prevention system (IPS) are key elements of any security system. They ensure the safety of systems and networks. Both technologies rely on either statistical and signature databases or on the behavior of the network through Artificial Intelligence (AI) agents. Both technologies sent alerts to the authorized staff whenever there is an attack sign.

2.1.3 Anti-virus & malicious codes scanners

Antivirus and malicious codes scanners are tools that perform a check on the technical body of the government and prevent viruses from being transferred through numerous channels and can cause serious damage to the government. The antivirus programs and users alertness will prevent the spread of computer viruses .

2.1.4 Authentication and passwords

Information system is the heart of any government. The requirement of protecting the privacy and the integrity of the information is very important. Authenticating the identity of the user is one of the fundamental factors a government needs to focus on. There is a need of 3-level security. First, Authentication through identification (password). Second, Authentication through something that they have (id card) Third, Authentication through something that is part of them (fingerprint).Permutation and Combination of these three factors make the authentication more accurate and hard to be searched..

2.1.5 Files reliability checks

Data reliability is one of the main security factors required in any government. Different tools can be used to ensure the data reliability such as digital signatures, certificates or hashing mechanism. A fall in the integrity of the data can cause a disaster if the data is related to medical, personal, or application to governmental service.

2.1.6 Cryptography

Cryptography is the art of hiding information from those who are not authorized to view it. Cryptography solves problems that involve secrecy, authentication and integrity. Cryptography contributes highly in building the trust of any e-government service.

2.1.7 Virtual private network (VPN)

VPN is becoming very popular in the today's business world. VPN services act like a tunnel to secure connection on wifi and protect your data. It play a major role in providing the staff working in supporting the e-government a mean of extending support to the infrastructure virtually, extend the work environment to the homes, and make the government information resources accessible to authorized users.

2.1.8 Vulnerability scanning tools

Vulnerability scanners for any security department trying to be in the proactive arena. Knowing the vulnerabilities of any government system, network, or application can add value to the security system of the government E-government will need to have scanners and tools for scanning the vulnerabilities and a group to analyze the result of these scanners.

2.1.9 Digital signature and digital certificate

"A signature or multiple signatures on the paper guarantee its authenticity". The digital signature is used to verify authencity, integrity, non-repudiation, i.e. it is assuring that the message is sent by the known user and not modified, while Digital Certificates on the other hand is used to verify the identity of the user, maybe sender or receiver. The main purpose of this technology is to become a main method of use in the electronic transactions in e-government services without being forgeable

2.1.10 Biometrics

Biometrics is the most technical tools providing logical and physical access control to information resources. It uses metrics related to human characteristics where no duplicate can appear. It prevents imitation by matching the database of traits to the traits owners. The usage of biometrics in e-governments can vary from accessing critical systems to accessing physical restricted areas such as computer centers.

2.1.11 Logical access control (Firewalls)

Firewalls are logical access control mechanism allowing and jamming entries to the government network by setting up some policies An e-government with several applications will need application layer firewalls to guard the systems infrastructure and boundary firewalls to protect the admission of users from different government departments and Internet.

2.1.12 Security protocols

Security protocol plays a very important task in encrypting data during its transaction from a one point to another. A table indicating all resources covering the information security technologies.

Table 2 Technical Phase

Technical Phase				
A1: Right of entry Control	A2: Interruption Detection Prevention	A3:Anti-Virus & Malicious Codes Signature	A4:Authentication and Passwords	A5:Files reliability Checks
A6: Cryptography	A7:VPN	A8:Vulnerability scanning Tools	A9:Digital Signature and Certificate	A10:Biometrics
A11:Logical Access Control(firewall)	A12:Security Protocols			

2.2 The Strategical Security Phase

Security policies are essential for building every successful information programme. The number of security policies can differ based on the needs of the government and the area of security meant to guard against a well defined threat. These policies can increase and has no limit. The model will still hold the idea to have the right combination of policies with the other phases in the model.

Table 3 Strategical Phase

Security Strategical Phase				
B1:Password Management	B2:Log-in-Process	B3:Logs Handling	B4:Computer Viruses	B5:Intellectual Property Rights
B6:Data Privacy	B7:Privilege Control	B8:Data Confidentiality	B9:Data Integrity	B10:Internet Connectivity
B11:Administrative Policies	B12:Encryption Policies	B13:HR Security Policies	B14:Third Party Policies	B15:Physical Security Policies
B16:Operation security Policies				

2.3 The Proficiency security Phase

Due to the proliferation of the Internet and the usage of the citizens of the government wide e-services, government departments must invest on the human capital of the information security departments. The proficiencies listed will help the government department to enhance the security control and narrow the gap of the information between the different government security departments. It will contribute in uplifting the trust on the security programmes between the government departments and will increase the usability of the e-services by the citizens due to the strong confidence in the security level of the government departments.

Table 4 Proficiency Phase

Security Proficiency Phase				
C1:security Operation and Management	C2:Security Architecture and Development	C3:Ethical Hacking	C4:Security Policies Development	C5:Computer Forensics
C6:Cryptography	C7:Security programming	C8:Laws and Regulations	C9:Security Implementation and Configuration	C10:Security Analysis

2.4 Security operations and management Phase

The National Institute of Standards and Technology (NIST) categorized the security controls into three categories; technical, operational, and management: Security concerns vigilant monitoring and management of critical assets and information resources. Management and operational tools are must to have in order to facilitate the security practitioner to perform the task and achieve the best objectives.

The most important facet of this phase is how the government runs its operation. The operational policies and procedures are the rules and regulations where the security operational staff will follow in performing the tasks expected from them.. These operational policies and procedures will spell out the security policy approved in the government and shall have strong reference to it.

Table 5 Operations and management Phase

Security Operations and Management Phase				
D1:Operational Policies and Procedures	D2:Management Tools	D3:Correlation and Data mining	D4:Reporting and response	D5:Analysis and Human Intervention

2.5 Decision

Reaching the right decision for launching or not launching an e-service will have a direct impact on the success or failure of the e-service. Taking one direction or another can affect the overall model in selecting policies, technologies and hiring the right staff to run the security programme. awareness, technologies and having the appropriate staff are what construct the right combination of the security programme of any organization.

Table 6 Decision Phase

Decision Phase				
E1:Cost	E2:Awareness	E3:Need	E4:Technologies availability	E5:FUD

3. THE MODEL EVOLUTION

The new model will be used as a reference to identify the security levels applicable to government services. In addition, a rating process will be applied on the different phases and sub phases by a group of selected security practitioners in order to confirm the applicability of the phases/sub phases proposed in the new model.

Table 7 Model Evaluation

The Extended Multi Phased Security Model						
Security Levels	**Sub Layers/Cells**					
Technology Phase	A1: Right of entry Control	A2: Interruption Detection Prevention	A3: Anti-Virus & Malicious Codes Signature	A4:Authentication and Passwords	A5:Files reliability Checks	A6: Cryptography
	A7:VPN	A8:Vulnerability scanning Tools	A9:Digital Signature and Certificate	A10:Biometrics	A11:Logical Access Control (firewall)	A12:Security Protocols
Policy Phase	B1:Password Management	B2:Log-in-Process	B3:Logs Handling	B4:Computer Viruses	B5:Intellectual Property Rights	B6:Data Privacy
	B7:Privilege Control	B8:Data Confidentiality	B9:Data Integrity	B10:Internet Connectivity	B11:Administrative Policies	B12:Encryption Policies
	B13:HR Security Policies	B14:Third Party Policies	B15:Physical Security Policies	B16:Operation security Policies		
Competency Phase	C1:security Operation and Management	C2:Security Architecture and Development	C3:Ethical Hacking	C4:Security Policies Development	C5:Computer Forensics	C6:Cryptography
	C7:Security programming	C8:Laws and Regulations	C9:Security Implementation and Configuration	C10:Security Analysis		
Operation Management Phase	D1:Operational Policies and Procedures	D2:Management Tools	D3:Correlation and Data mining	D4:Reporting and response	D5:Analysis and Human Intervention	
Decision Phase	E1:Cost	E2:Awareness	E3:Need	E4:Technologies availability	E5:FUD	

4. CONCLUSIONS

This paper deals with analysis of the existing models and find out threats at each level and develop a new model to overcome these threats. The concept behind this model is to analyze the security needs and requirements for any e-enabled government in order to permit or not to permit the exchange of information between each other in e-government.

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International Journal of Management (IJM)
Volume 11, Issue 12, December 2020, pp.3202-3223, Article ID: IJM_11_12_300
Available online at http://iaeme.com/Home/issue/IJM?Volume=11&Issue=12
ISSN Print: 0976-6502 and ISSN Online: 0976-6510
DOI: 10.34218/IJM.11.12.2020.300

CLOUD BASED E-GOVERNMENT MODEL: ANALYSIS AND CHALLENGES

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ABSTRACT

There is growing proof that the Cloud Computing offerings have turn out to be a strategic path for governments' IT paintings with the aid of using the sunrise of the third-millennium. The inevitability of this computing generation has been diagnosed now no longer best with inside the advanced nations just like the UK, USA and Japan, however additionally with inside the growing nations just like the Middle East location and Malaysia, who've released migrations closer to Cloud systems for extra flexible, open, and collaborative public offerings. In India, the cloud-primarily based totally e-authorities task has been deemed as one of the excessive precedence regions for the authorities businesses. In spite of its extra special evolution, numerous governmental cloud- primarily based totally offerings nevertheless going through adoption demanding situations of e- authorities initiatives like technological, human- factors, social, and economic which want to be handled and taken into consideration cautiously with the aid of using any authorities business enterprise taking into account its implementation. While there had been good sized efforts to analyze the e- authorities adoption from the residents' angle the use of exceptional theories and fashions, none have paid good enough interest to the safety troubles. This paper explores the exceptional views of the volume wherein those demanding situations inhibit the reputation and use of cloud computing in Indian public region. In addition to inspecting the impact of those demanding situations at the contributors' protection notion.

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The empirical proof supplied a complete of 220 legitimate responses to our on line questionnaire from Indian residents consisting of IT- workforce from exceptional authorities sectors. Based at the statistics evaluation a few full-size demanding situations had been diagnosed. The consequences can assist the coverage makers with inside the public region to manual a success reputation and adoption of cloud- primarily based totally e-authorities offerings in India.

Key words: Cloud Computing, Cloud systems, e- authorities, IT- workforce, E-Government.

Cite this Article: Neha Paliwal, Bright Keswani, Vani Jain and Devesh Bandil, Cloud based E-Government Model: Analysis and Challenges, *International Journal of Management (IJM)*, 11(12), 2020, pp. 3202-3223.
http://iaeme.com/Home/issue/IJM?Volume=11&Issue=12

1. INTRODUCTION

Development of Information and Communication Technology (ICT) is one of the full-size traits of our generation and, like different innovations, it has an essential affect in phrases of converting and modernization human beings existence to a few volume. Specifically, the evolution of ICT has a dramatic extrude in residents' interplay with their governments, extensively growing their expectancies on this regard [1, 2]. With the inception of e-authorities structures, some of authorities agencies international have moved far from the conventional shape of public administrations to digital forms, as they found out the significance of handing over first-rate and extra green offerings to its residents [3, 4]. However, the in addition usage of e-authorities offerings ended in extra adoption and reputation demanding situations like technological and economic ones [4, 5]. Innovative ICT, along with cloud computing generation can make contributions to triumph over those demanding situations; cloud computing represents a essential extrude with inside the technological surroundings production of the general public region and the manner that governments behavior their commercial enterprise [6, 7]. In the beyond decades, the governmental region targeted predominantly at the conventional on line net- primarily based totally offerings to decorate accountability, transparency, and accessibility to public offerings and facts. Led with the aid of using the pioneering projects in lots of advanced nations along with UK, Japan, USA and EU [8, 9], cloud generation made a success development closer to being the subsequent-technology of e-authority's offerings. The concept is to make use of ubiquitous, particularly scalable, location-impartial IT sources to increase organizational techniques and reinvent the authorities offerings that meet residents' expectancies to enhance collaboration among authorities businesses with extra flexible, open, low- fee and unified computing. However, the cloud- primarily based totally e-authorities taken into consideration as a profound extrude inside governments additionally represents a person- centric offerings platform aiming to growth residents' participation. In current years, the general public region with inside the growing nations, in particular, the Middle East have commenced gearing closer to cloud computing to gain an expanded stage of performance and overall performance whilst presenting fee-powerful outcome [10]. However, some of those governments are nevertheless with inside the preliminary ranges of that manner. The states of India , the with inside the coronary heart of Middle East location, is with inside the manner of entire migration to Cloud-Government. India realized the critical position of the Cloud Computing with inside the e-authorities context and released the primary "National Cloud Platform", designed to gain persistent upgrades and increase in the e- authorities programs [11]. In those days, some of authorities entities and ministries follow cloud-primarily based totally answers to offer progressed public offerings to their residents; however, a excessive-percent of Indian nationals do now no longer but use cloud-primarily based totally e- authorities offerings and nevertheless, depend upon paper printouts in their respectable transactions. Accordingly, the offerings supplied primarily based totally at the cloud computing generation just like the "Issuing Certificate of Non- Criminal Record" aren't exploited efficiently. A quantity of theories and fashions of IS/IT reputation, like Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM) and, the modern advanced version, the second one model of the Unified Theory of Acceptance and Use of Technology (UTAUT2), had been in large part carried out to observe the people' reluctance or low adoption of recent e-authorities offerings [12]. However, those theoretical fashions, consisting of the UTAUT2 itself, are criticized for now no longer thinking about the constructs depicting the particular views of e- authorities (e.g. protection). This paper takes a step closer to answering the query: "Do the boundaries and demanding situations of e-authorities adoption affect using cloud-primarily based totally e-authorities offerings from the Indian residents' and authorities' angle?". The findings of this studies demonstrated that a few e-authorities demanding situations nevertheless affect the reputation of cloud-primarily based totally public offerings just like the lack of expertise and protection. In addition to validating a number of the safety issues associated with this studies context, subsequently those may be considered while formulating a brand new theoretical version.

2. CHALLENGES OF E-GOVERNMENT

E-authorities projects intention to elevate the extent of governments' overall performance whilst imparting the residents with upgraded public offerings. However, some of authors imply that exceptional sorts of boundaries are confronted with the aid of using authorities entities which hindered the attaining of e-authorities promised dreams and degraded its a success adoption [8, 13]. Therefore, the general public region has the duty to triumph over such hard hurdles. Despite the governments' efforts on this regard, the achievement of e- authorities projects is contingent upon residents' willingness to apply and be given the e-authorities offerings using new ICT [3]. Notably, Security is one of the full-size reasons of hesitation approximately e- authorities offerings because of lingering perceived protection issues [14]. The maximum encountered demanding situations of e- authorities reputation and adoption may be grouped into classes as mentioned in Table 1.

2.1 Technological Challenges

The e-authorities projects deployment become for a long term limited with the aid of using technological troubles. For instance, loss of protection is a essential impediment in enforcing e-authorities offerings in step with residents' issues [15]. This phase illustrates the primary boundaries face e-authorities from the technical thing.

2.2 IT Infrastructure

Although the taking place of IT fee, enough IT infrastructure continues to be taken into consideration as one of the maximum not unusual place boundaries to e-authorities offerings, additionally affect citizen adoption of such offerings [16, 17]. It composed of networks along with LAN (nearby place community), WAN community (Extranet, Intranet and Internet), different technical components, databases and running structures. Creating new verbal exchange channels to supply and percentage the e-authorities facts and offerings calls for good enough internetworking [17, 18]. Similarly, Ebrahim and Irani (2005) asserted the importance of internetworking potential as a base for IS integration throughout the general public region. Also, IT infrastructure might be skilled with the aid of using loss of software program and hardware. In many growing nations, the bad IT infrastructure frequently prohibits the a success implementation of e-authorities. Consequently, governments require helping a robust IT infrastructure to allow the residents to gain from e- authorities offerings.

2.3 Security

Security refers back to the safety of structures, facts, and statistics in opposition to intentional or unintended disclosure, copying and alteration because of unauthorized get right of entry to [19]. A quantity of research have diagnosed protection as a full-size barrier affect the goal to apply the e- authorities offerings throughout the world, and this is from each governments' and residents' angle [15-17]. While there may be a consensus some of the studies network that protection could have technical or non-technical factors, the non-technical troubles have extra affect with inside the growing nations. The Perceived facts protection may be described as "the subjective opportunity with which customers trust that their private facts will now no longer be considered, saved or manipulated at some point of transit or garage with the aid of using beside the point parties, in a way steady with their assured expectancies" [20]. So, perceived protection is an critical detail to construct the accept as true with among the authorities and its residents. As said with the aid of using Ndou (2004), governments around the world want to stable the transactions among the authorities agencies and people. 21.three.

2.4 Availability

The improvement any Information System IS like e-authorities may want to bring about many demanding situations to the inner and outside stakeholders (e.g. availability and accessibility) [17, 21, 22]. It is critical to differentiate among those terminologies. Availability refers back to the quantity of e-offerings which are to be had for the residents 24/7 [17]. As illustrated with the aid of using Criado et al. (2003), the critical guarantees of e- authority's initiatives may be completed with the aid of using an integration of numerous elements, for example, accessibility and availability [23]. Moreover, availability improves residents' pleasure with of e- authority's machine because of its pivotal affect at the provider quality [24]. By contrast, the shortage of those essential elements might result in failure of e-authorities efforts. While the above-stated dialogue factors out the supply as a rating trendy for the achievement and adoption of e-authorities, accessibility to e- authority's offerings is likewise important.

2.5 Accessibility

Accessibility time period is used to explain the approaches wherein residents' achieve on line authority's offerings and facts thru of a couple of e-channels [16, 22]. The presence of such channels makes the provider on hand to all sorts of residents in spite of religion, house vicinity or maybe disabilities. Alomari et al. (2012) proposed the provider accessibility as an essential predictor to set up "citizen-centric" e- authorities offerings. Thus, the authorities businesses ought to make certain the accessibility and availability in their net offerings to all stakeholders from exceptional places across the clock. For example, governments may want to release loose Wi-Fi provider inside a country wide approach to inspire the residents' participation in e-authorities offerings.

2.6 Website Layout

Recently, the governments' web sites have emerged as the primary gateways for handing over public offerings to residents [22, 25]. Research on e- authorities has located that web site design is a full-size aspect affected citizen's willingness to just accept e-authorities offerings [22]. Standardized layout and well-prepared content material growth the customers' goal to apply e-authorities. In addition, express protection rules, instructions, and password suggestions ought to be ensured with inside the layout of internet site; due that residents' use of e-authorities is a questionable rely with out a protection assure [26].

2.7 Human Aspects

"Once the human beings have the infrastructure to head on line, they want the focus, competencies and on line content material to inspire their get right of entry to" [27] The research indicates that loss of each focus and IT-competencies are the 2 dominant human-factors below the boundaries to e-authorities projects [18].

2.8 Lack of Focus

In preferred, residents have restrained focus approximately e-authorities offerings and its advantages [28]. It has been located that the lack of expertise is one of the barriers to a success adoption of E-authorities [25, 29]. Awareness refers back to the person's expertise of others' sports, which yields to a context for his personal sports [25]. Lack of focus is a foundation for low charges of residents' participation and failure of e-authorities initiatives [24]. Therefore, governments ought to provoke appealing focus campaigns to sell new e- authorities offerings and to gain its a success diffusion and implementation.

2.9 ICT Competencies

Two sorts of competencies are required to apply e- authorities structures with the aid of using residents. These are: IT literacy and Information protection literacy. The dearth of those competencies is a important project to e-authorities projects, specifically in growing nations [30]. IT-Literacy used to signify the marginalized those who are incapable to apply ICT because of the shortage of pc information and training [17]. While the facts protection literacy approach the shortage of simple information approximately the stable on line practices [31]. In fact, the governments had to offer their residents with the critical pc, protection and net competencies to enhance their participation in e- authorities. In this regard, Almarabeh and AbuAli (2010) emphasized the critical significance of residents' training, because it prevents the upward push of companies in the society "facts bad" and "facts rich".

2.10 Social Challenges

Social troubles to the adoption of e-authorities aren't a technological barrier, however as a substitute hinge on social implications of recent IT. The social thing consists of some of demanding situations like income, language, tradition, training and virtual divide. In recognize to this observe, tradition might be clarified.

2.11 Culture

The powerful implementation and adoption of e- Government offerings want to triumph over the cultural demanding situations [22, 32]. Culture may be diagnosed with the aid of using various factors along with human beings values, ideals, behaviour and religion. Also, normally it could be categorized into 3 types: organisational tradition, country wide tradition, and protection tradition. In the context of this observe, It is essential to make clear precisely what is supposed with the aid of using "protection tradition" which refers back to the socio-behaviour and customs of a particular society, that have an effect on their protection practices [33]. Resistance to extrude with the aid of using residents can also additionally lead ultimately to poor effects concerning e- authorities participation [32]. Therefore, it is required from the governments to enhance the social existence and set up a information-primarily based totally society so that you can extrude IT-tradition in their residents.

• ICT skills	• short of IT skills amongst users of e-government (i.e. citizens, employees, IT staff) • short of baseline knowledge associated to the secure online practices	**[25, 31]**
Social		
• Culture	• Religious and tribal beliefs • Language problems • Change resistance	**[32, 35]**
Financial		
• Lack of budget / high cost	• High maintenance andoperational cost • High budget for securitysolutions	**[15, 16]**

Examples Ref. Technological IT infrastructure In sufficient networking potential Inadequate integration throughout structures Poorly updated hardware and software program incompatibility and complexity of the present structures [16, 30] Security lack of transactions' [15-17, protection lack of trust in online and 25, 30] authorities e-offerings loss of protection hardware with inside the public region Availability Inability to supply offerings and facts upon request Slow reaction to residents expectancies ,making unsuccessful transport of the e-offerings. [24, 30] Accessibility Difficulty to get right of entry to the machine with the aid of using the human beings with disabilities Internet insurance is restrained [30, 32] Website layout restrained languages to gift [22, 24, the website content perceived ease of use 25] region context. Furthermore, the volume to which those demanding situations are pertinent to the perceived protection of cloud-primarily based totally e-authorities offerings. Consequently, there may be a concurrent want to benefit an empirical exam for the affect of such demanding situations at the reputation and protection of cloud computing offerings and programs with inside the public region. In this paper, an internet survey become carried out to gain this observe intention.

3. CLOUD COMPUTING

Cloud Computing has turn out to be a full-size milestone with inside the improvement of Information Systems (IS) and a salient IT approach for governments, due presenting particularly-scalable computing sources. According to the definition supplied with the aid of using National Institute of Standards and Technology (NIST), Cloud computing is " a version for allowing ubiquitous, handy, on-call for community get right of entry to a shared pool of configurable computing sources that may be swiftly provisioned and launched with minimum control attempt or provider issuer interplay" [36]. Cloud Computing is taken into consideration as one of the maximum promising ITs nowadays, inherently has awesome traits consist of huge community get right of entry to, on- call for self-provider, speedy elasticity, pooled sources, measured provider (Fig 1) [36]. Wang et al. (2016) use the time period 'cloud computing' to seek advice from "the transport of computing as a provider instead of a product" [37]. This provider is supplied to the authorities businesses, commercial enterprise, and people on 3 exceptional fashions consisting of Infrastructure as a Service (IaaS), Platform as Service (PaaS), and Software as Service (SaaS). Also, primarily based totally at the scope of utilization, cloud computing may be grouped into 4 deployment fashions, which might be: personal cloud, hybrid cloud, network cloud, and public cloud [36, 37]. Security issues turn out to be essential at some point of the transport of the offerings and affect person's reputation and use of such offerings [38].

Figure 1 NIST definition of Cloud Computing [36]

3.1 Cloud Computing with inside the E-authorities Context

Evidence from preceding studies indicates that cloud generation become followed as a singular channel for the transport of public offerings [39], wherein full-size upgrades with inside the authorities region overall performance, additionally growing progressive public offerings had been detected throughout numerous contexts, international [40]. Around the globe, governments have started to supply numerous offerings primarily based totally at the cloud systems to decorate the offerings quality, recognize performance, lessen fee [41, 42]. Harnessing Cloud Computing (CC) to supply authorities offerings affords some of advantages (e.g. dynamic scalability, accountability, dispensed garage, protection control, and inexperienced IT) [43, 44]. However, there may be a excessive deal of risk, each tangible risk (e.g. availability and infrastructure) and intangible risk (e.g. protection) are related to cloud-primarily based totally e-authorities offerings in conjunction with advantages of the cloud programs [7]. Security issues and applicable troubles are the primary reassets of the risk [45]. Therefore, its required to deal with and perceive such issues for cloud-primarily based totally e-authorities offerings in conjunction with different sorts of dangers. Consequently, governments may have the capacity to risk-control of the cloud systems, that's taken into consideration as the primary determinant of CC achievement and reputation.

4. ACCEPTANCE AND ADOPTION OF NEW TECHNOLOGY

Theories and Models Understanding character-stage of IT reputation is one of the well-installed streams with inside the place of facts machine (IS) studies [46, 47]. Thus a long way exceptional competing fashions and theories had been advanced to apprehend the customers' reputation behaviour of IT/IS. Among those fashions and theories, the TAM, the TPB, the Theory of Reasoned Action (TRA) and so on [48]. There become a want to create a complete version that offers a extra entire photograph of the person's IT reputation manner than any preceding theoretical fashions were capable of do. Venkatesh et al. (2003) advanced the UTAUT version on the idea of integration of 8 dominant theoretical fashions with inside the place of generation reputation (Fig 2) [48]. The UTAUT version consists of 4 middle antecedents (i.e. overall performance expectancy, attempt expectancy, social affect, and facilitating conditions) of behavioural goal and real use behaviour. While gender, revel in, age, and voluntariness had been built because the 4 moderators to the primary relationships (Fig three) [48].

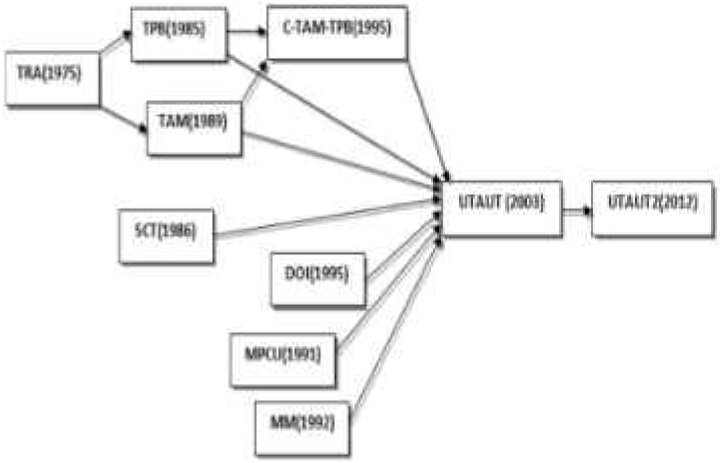

Figure 2 Development of Unified Theory of Acceptance and Use of Technology Model

Since its inception, the relationships of the UTAUT version had been considerably investigated and showed with inside the context of e-authorities offerings [5, 12, 49]. Thus, the UTAUT is appropriate to apprehend the reputation behaviour of the cloud offerings with inside the e-authorities context. Venkatesh et al. (2012) proposed the UTAUT2 version as an extension to UTAUT version with inside the context client of generation reputation and use [50]. Since residents are the primary customers of e-authorities cloud- primarily based totally offerings, the UTAUT2 can serve the targets of this observe appropriately [51]. Furthermore, in comparison to the unique theoretical fashions, UTAUT2 it could account for a excessive percent with recognize to defined variance (R2) as much as 74% in behavioural goal (BI) to apply IT, that's extra powerful than any acknowledged character version from the beyond. However, the unified concept (UTAUT/UTAUT2) have a tendency to be criticized because it does now no longer think about the accept as true with and protection issues which constitute of the particular constructs applicable to e-authorities context [4].

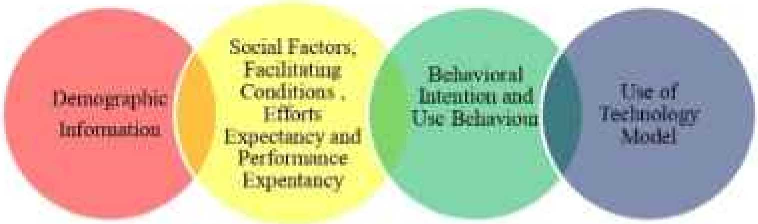

Figure 3 UTAUT [48]

5. RESEARCH METHODOLOGY

In this observe, quantitative studies method using on line questionnaire survey become undertaken to gather the number one statistics and to satisfy the targets of the studies. A survey questionnaire become decided on as it's miles much less time-consuming, inexpensive, the anonymity of respondents may be assured, and it has the capacity to offer a statistics influx from a huge pattern with a minimal stage of researcher bias [52]. A pre-take a look at become carried out after the questionnaire first of all designed with the aid of using a number of the Indian public, PhD researchers, and educational workforce. This is essential to decorate the questions and test the comprehension of contributors earlier than the real survey is dispensed [53]. This ended in a few adjustments to the wording of few inquiries to make it as express as possible. The questionnaire become applied to decide the energy of Indian residents' perceptions of demanding situations going through the reputation of cloud-primarily based totally e-authorities offerings and the affect of those demanding situations at the perceived protection. In addition, the identical demanding situations had been tested from the angle of offerings providers. IT-workforce on this observe representing a full-size pillar of the general public region so it's miles important to discover the perspectives of IT-professionals concerning this issue. As cloud computing CC is an nearly new idea with inside the growing nations, the researchers supplied a definition of this progressive IT on the primary web page of the net survey. The on line questionnaire hyperlink become marketed to the focused pattern of the observe the use of exceptional verbal exchange channels (e.g. social media companies, private emails and universities mailing lists). In preferred, the studies pattern may be categorized as Indian residents who're net customers and feature a essential expertise of e- authorities offerings and CC. The 2nd pattern of IT-personnel along with net designers, software program/machine engineers, and programmers, respondents had been approached for responding thru their private contacts (i.e. emails) in the event that they had private revel in of the e-authorities offerings. The survey includes 4 sections. These are: (1) the respondents' preferred facts (demographic); (2) the respondents' perceptions concerning boundaries and demanding situations going through reputation of cloud-primarily based totally authorities offerings; (three) the respondents' perceptions concerning the safety of cloud-primarily based totally public offerings; (four) the respondents' revel in e- authorities and net use. The survey become carried out primarily based totally at the University of Bradford human studies ethics.

6. DATA ANALYSIS AND FINDINGS

The subsequent sections spotlight the important thing findings and gift indicators to the solution of the studies query drawing at the survey findings. An assessment of the net survey questionnaire become supplied with inside the first phase. Then, an example of the consequences of the observe query with extra info become supplied with inside the following 3 sections.

7. OVERVIEW OF THE ONLINE SURVEY QUESTIONNAIRE

As delineated above, the net questionnaire is includes 4 components which become supplied in Arabic for less difficult and higher expertise of its questions as Arabic is the local spoken language for residents in India However, the English survey questionnaire become additionally constructed for the motive of the studies. The participation with inside the questionnaire become absolutely voluntarily and knowledgeable consent become secured thru the primary query on the quilt facts sheet indicating that consent is express with the aid of using the "yes" solution to the query. The survey questionnaire become to be had to be accessed thru the net surveys' internet site eSurveyCreator.com. It become open "on line" for one month to all Indians' human beings across the world. By the give up of that time, 243 responses had been received. The pattern of this observe includes classes IT workforce and Indian residents. fifty six contributors had been personnel from exceptional authorities businesses in India whilst 187 had been regular Indian residents. However, 23 residents' responses had been discarded due to wrong or lacking solutions. In consequent, a complete of 220 responses had been legitimate for the manner of statistics evaluation, for figuring out the volume wherein the e-authorities demanding situations affect the reputation of cloud offerings with inside the public region from Indian's human beings angle and its effect at the perceived protection. People who understood the cloud offerings (e.g. IT-workforce with inside the public region, ICT region personnel, college students) taken into consideration as a certified pattern. The motive at the back of this feature is that they may be some of the adult's populace whom using net turn out to be a critical a part of their each day existence and has the critical information approximately Cloud Computing offerings. In addition to IT-workforce revel in growing and imparting such offerings. Moreover, because the improvement of Cloud-primarily based totally offerings in India is with inside the preliminary stage, the respondents might be the primary cap potential adopters. Thus, understanding their perceptions and attitudes is essential to enhancing the cloud-primarily based totally e-authorities offerings. The evaluation consequences are certain beneathneath.

8. INFORMATION (DEMOGRAPHIC)

The demographic profile of the of the 2 awesome samples (i.e. Indian residents' and IT-workforce) is summarized in Table 2 and Table three. In this survey, best decided on profiles which might be gender, age, training stage, residency, net information stage, protection focus stage had been indexed with the aid of using the authors. Data supplied proof that approximately thirds (66 %) of respondents had been male and one third (34%) female. The bias closer to male is attributable to that India is one of the growing nations that touted as a male-ruled society wherein the bulk of female's existence is on the authority and mercy their male's relatives; this may affect exceptional factors along with undertaking authorities transactions and employment with inside the public region. In phrases of age, the findings found out that the biggest percent of the overall populace pattern had been elderly especially among (21-forty) years old, steady with the biggest majority of Indian net customers. Most of the respondents preserve a bachelor diploma as training qualification stage which is available in settlement with the overall distribution of net customers in India seventy eight% of residents' respondents are from India or different growing nations, whilst 22% are from growing nations just like the United Kingdom and the USA. In preferred, the residents' respondents had been self-diagnosed as having medium net information and amateur to medium protection focus. By evaluation, the primary distinction with inside the IT-workforce pattern become self-identity as having a pretty superior net information and protection focus.

Table 2 General Information (Demographic) for IT-Staff in Public region

Attributes	**Percentage(%)**
Gender	
M	69%
F	31%
Age	
20-30	41%
30-40	54%
40-50	5%
Education Qualification	
Diploma	25%
Bachelor	66%
Postgraduate	9%

Nationality Country	
India or developing countries	100%
Internet Knowledge	
Advanced	100%
Security Awareness	
Medium	73%
Advanced	27%

Table 3 General Information (Demographic) for Indian Citizens

Attributes	**Percentage(%)**
Gender	
M	66%
F	34%
Age	
18-20	3%
21-30	68%
31-40	16%
41-50	11%
50–	2%
Qualification Level	
Secondary School or below	7%
Diploma	8%
Bachelor	63%
Postgraduate	22%
Nationality Country	
India or developing countries	78%
Developed countries	22%
Internet Knowledge Level	
Beginner	2%
Medium	60%
Advanced	38%
Security Awareness Level	
Beginner	57%
Medium	32%
Advanced	11%

This assessment of the overall demographic profile of the contributors will assist with inside the consequences' interpretation and offer the solution to the studies query with inside the subsequent sections.

9. CHALLENGES TO CLOUD-BASED E- GOVERNMENT SERVICES ACCEPTANCE

Interpretation of the observe Question According to the consequences, there are some of demanding situations and boundaries of e-authorities reputation and adoption, which might be: technological, human- factors, social, and economic which are nevertheless impede the reputation and use of cloud computing offerings in Indian public region from the contributors' angle (Fig four). A quantity of authors indicated that the diffusion of progressive technologies (e.g. e- authorities offerings) into residents and societies isn't with out demanding situations. However, the authorities region faces boundaries from residents who assume better requirements of the general public offerings (i.e. governmental) than from offerings of the personal region. Nine boundaries had been diagnosed to reputation of e-authorities offerings with the aid of using the researchers primarily based totally on literature evaluate. In consequent, respondents had been requested for comparing their notion of the significance stage for every barrier with the aid of using thinking about the demanding situations if it does now no longer constitute one (zero), essential one (1), or very essential one (2).

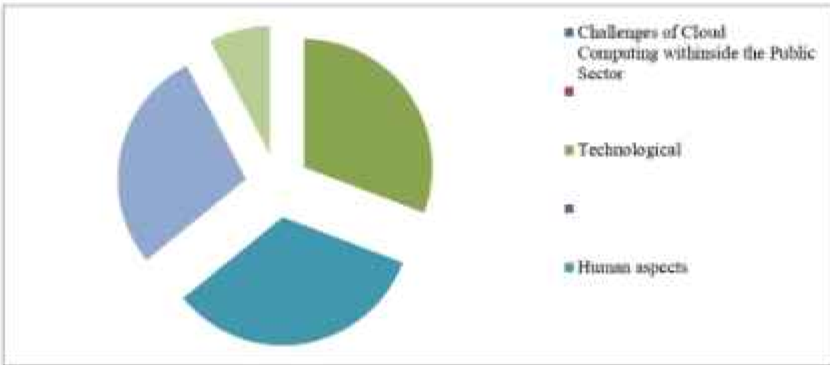

Figure 4 Challenges of Cloud Computing with inside the Public Sector

9.1 Citizens' Perceptions Regarding Barriers of Cloud-Based E-Government offerings

Tables four, five indicates all of the 9 boundaries had been selected as both very essential or essential barrier and no one of the 9 become selected as now no longer a project from all contributors.

Table 4 Very Important Barriers to Accept Cloud- Based Services from Citizens' Perspectives

S. No	Obstruction	Major obstructions Percent %
1	IT infrastructure	50%
2	Security	80%
3	Availability	30%
4	Accessibility	40%
5	Website design	42%
6	Lack of awareness	80%
7	IT skills	30%
8	Culture	70%
9	Lack of budget / high cost	20%

Table 5 Important Barriers to Accept Cloud-Based Services from Citizens' Perspectives

S.No	Obstructions	Important obstructions
		Percent %
1	IT infrastructure	50%
2	Security	15%
3	Availability	65%
4	Accessibility	60%
5	Website design	49%
6	Lack of awareness	15%
7	IT skills	60%
8	Culture	30%
9	Lack of budget /high cost	65%

9.2 IT-Employees' Perceptions Regarding Barriers of Cloud-Based E-Government offerings

The evaluation of the IT-personnel' perspective approximately the boundaries at the 2 perceptions degrees is summarized in Tables 6,7. Again, Lack of focus and protection are the 2 maximum famous demanding situations as illustrated with inside the subsequent subsection.

Table 6 Very Important Barriers to Accept Cloud-Based Services from IT-Staff Perspectives

S.No	Obstacle	Important obstacle
		Percent %
1	IT infrastructure	15%
2	Security	20%
3	Availability	40%
4	Accessibility	35%
5	Website design	30%
6	Lack of awareness	7%
7	IT skills	60%
8	Culture	30%
9	Lack of budget /high cost	60%

9.3 Respondents' Perceptions Regarding the "Very Important" obstacle

Inspecting the very best boundaries that residents and IT personnel perceived as being "very essential" it could be observed that the lack of expertise approximately the cloud-primarily based totally offerings and its advantages with inside the e-authorities context become famous at (87.eight%) and (94.6%), respectively. This suggests that promotional applications are probable to be an essential aspect for the achievement of e-authorities projects [54]. For any modern generation (e.g. cloud offerings for the general public region) there some of steps that might assist in convincing and inspiring human beings to just accept it first then use it. Research into adoption and use of cloud-primarily based totally offerings indicates that potential customers required to understand that it is simple and handy to apply, useful, and it provide a relative benefit in comparison to the modern-day approaches of appearing the things (shin 2013). For residents and different stakeholders to increase such perceptions earlier than acquiring good sized revel in, promotional sports and marketing and marketing will make contributions extensively to perform this intention. Security issues of facts and offerings supplied with the aid of using e-authorities structures come as a 2nd "very essential" barrier with a recognition of (86.6%) and (82.1%). There is a consensus amongst researchers that it's miles a severe technical barrier and it's also a well-documented angle for the implementation of e-authorities offerings international [14, 26, 55].

9.4 Comparison of Barriers Perceptions

This phase targets to examine the primary standpoints of Indian residents and IT-personnel concerning the boundaries to just accept and use of cloud- primarily based totally e-authorities offerings. It is obvious from the preceding sub-sections that there are some of perceived demanding situations which are not unusual place among each. Firstly, for each of pattern classes, the lack of expertise approximately the cloud-primarily based totally public offerings and its advantages as "very essential" project and ranked it because the maximum full-size one with inside the listing. This consensus among each pattern classes suggests that it's miles a important impediment to be resolved, thinking of a excessive-stage of precedence. Next, each of pattern populations agreed that Security of public offerings become diagnosed as the second one essential barrier with inside the listing of "very essential". At last, there has been a distinction with inside the subsequent maximum full-size "very essential" project to the cloud-primarily based totally e-authorities reputation, this displays the people' angle of pattern classes. For the IT-workforce in the authorities businesses, the weak spot of the IT infrastructure become considered as the subsequent ranked barrier as that allow them to offer powerful public offerings. With recognize to the regular residents' views, society tradition affects the a success use of progressive authorities offerings. Table:8 provides a précis of the not unusual place and awesome boundaries with their rank in step with their recognition.

Table 8 Common and Different obstacles between the Sample Categories

S.No	Obstacles	Percentage	
		IT workers	Citizens
1	Lack of awareness	90%	84%
2	Security	76%	80%
3	IT infrastructure	75%	46%
4	Culture	70%	65%

9.5 Security Perceptions of Cloud-Based E- Government Services

Seven of the e-authorities boundaries with inside the survey have an effect on the safety perceptions of the respondents (i.e. residents and IT personnel) closer to the reputation and use of cloud offerings. It is apparent from Table nine that there may be settlement at the rating of those boundaries from the viewpoints of the pattern each side. These had been ranked primarily based totally at the responses percent which both suggests strongly agree or agree.

Table 9 Perceived Security Barriers to Accept Cloud-Based Services in the E-Government

Rank	Obstacles	Agreement	
		Citizens	**IT employees**
1	High level of security concerns regarding "cloud-based e-government" services are inspired by *non-technical* aspects (e.g. culture and awareness)	75%	85%
2	Social relations and culture have a significant influence on the security of "cloud- based e-government" services	70%	80%
3	Lack of security awareness is one of the main determinants of the user's perception regarding the security of "cloud-based e-government" services.	65%	78%
4	Perceived security is a significant resource for public users' trust of "cloud-based e-government" services.	60%	75%
5	The design of the "cloud- based e-government" website influence the user perception of its security	55%	60%
6	There is a lack of security guidelines for using "cloud-based e-government" services, on the government website, social media or other media channels.	50%	60%
7	There is a lack of regulations and policies to use cloud public services.	40%	53%

For the boundaries that the 2 observe samples perceived as a protection project related to reputation and adoption of cloud-primarily based totally e- authorities, it's miles clean that the non-technical factors along with tradition and focus were given the very best rank at (83.6%) and (90.3%) respectively (Fig five,6).Thus, the primary interest ought to be paid to this regions with the aid of using the offerings issuer(i.e. authorities).

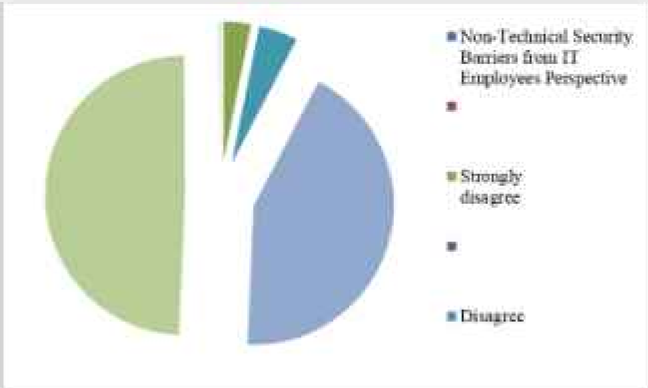

Figure 5 Non-Technical Security Barriers from Citizens Perspective

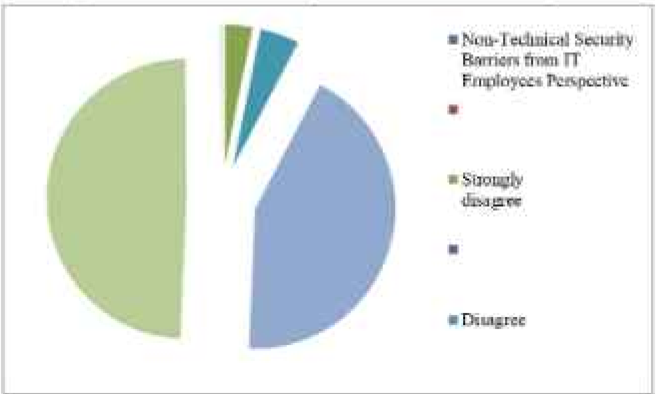

Figure 6 Non-Technical Security Barriers from IT Employees Perspective

The implementation of progressive e-authorities offerings faces the project of cultural inertia which required to be overcome, specifically in growing nations [35]. The cultural troubles have a exceptional affect among advanced and growing nations. To supply an example, the survey findings found out that extra than (64%) of the residents' pattern who stay in advanced nations choose to behavior on line transactions in comparison to approximately (35%) of these in India and different growing nations (Fig 7). The solutions indicated that the primary motive is cultural differences, one of the respondents who stay in India said: " I heard approximately many those who their cash become stolen while they are trying to shop for on line" whilst a 2nd commented: " digital transactions isn't assured I choose to touch the alternative men and women head to head and feature a risk of dialogue". Furthermore, tradition continues to be deemed to be as one of the boundaries in handling the perceived protection of cloud-primarily based totally e-authorities offerings (81.1%) and (89.2%) respectively. Accordingly, it's miles vital to teach and educate regular residents to construct an progressed tradition concerning the advantages, significance, protection of on line transactions, specifically cloud offerings for authorities region the use of some of promotional approaches.

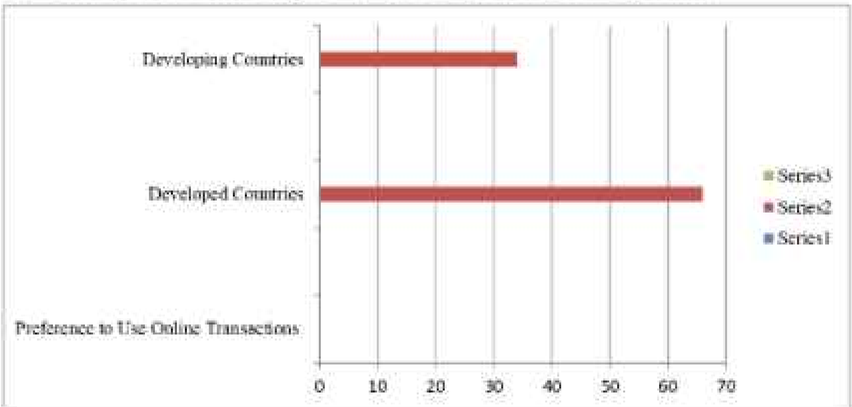

Figure 7 Preference to Use Online Transactions

10. CONCLUSION AND FUTURE WORK

E-authorities structures primarily based totally on cloud generation are the modern-day path in on line offerings and facts around the world. Government businesses, specifically the ones in growing nations who aspire to decorate e- authorities, can seek advice from those observe findings to sell and layout their offerings. For instance, they are able to layout numerous promotional programmes and sports for numerous customers. It is usually recommended to make investments cash in a vast and appealing focus marketing campaign to inspire residents efficiently to just accept and use cloud offerings. Additionally, those who use cloud- offerings to behavior governmental transactions might have a reduction in phrases of the transactions fees. This will assist to elevate the utilization charges, especially for people who nevertheless refuse using the e-authorities offerings, in preferred, attributable to some of issues along with protection and accept as true with. The predominant intention of this paper is to consciousness at the e-authorities demanding situations and the way it affects the reputation of the cloud-primarily based totally offerings in the public region context and to what volume those demanding situations have an effect on the perceived protection. The findings of this studies attempt had been primarily based totally at the responses IT workforce with inside the public region and Indian residents to the studies query. This become carried out for helping the manner of decision- making with the aid of using the stakeholders of e-authorities, and to enhance the effects of the cloud-primarily based totally e- authorities offerings supplied for the Indian society. The demanding situations had been diagnosed primarily based totally on a applicable literature evaluate and tested thru wearing out a survey. The findings of the survey showed that protection issues play a full-size position with inside the reputation and use of cloud offerings with inside the authorities context (2nd rank). In addition, it found out that the non-technical factors have a amazing significance some of the different protection troubles with inside the observe context. In consequent, thinking about those demanding situations and incorporating them with IT/IS reputation version is wanted for destiny studies paintings. Owing to its excessive explanatory electricity evaluating to the preceding theories and fashions of generation reputation and additionally its suitability to e-authorities cloud-primarily based totally offerings, the UTAUT2 version might be advanced choice imparting the bottom for the destiny proposed theoretical version addressing the reputation of such offerings.

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International Journal on Future Revolution in Computer Science & Communication Engineering
Volume: 5 Issue: 5

ISSN: 2454-4248
101 – 108

Comparative Analysis of E-Governance Models

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Abstract:- Online working of a government or providing its services online to its citizens at their access is known as E-Governance. E-Governance is E-Commerce tool means online accessibility of government services. The technology and the methods used in E-Governance plan provide a roadmap for well-organized delivery of services at the door step. In today's time the development of any country depends on the uses of E-Governance and also their dispersion Development of any country can be reviewed by the extent of E-Governance in that country. Moreover, today's government has also full confidence in E-Governance and its widespread network across the world proves it.

E-government security is a key problem to confine the structure and development of E-government systems in any country over the world. E-Government security models are broadly used in the implementation and development of e-government systems. Due to the deference situation of the countries over the world there are diverse security models applied in each country. . Based on this analysis, the security requirements of the data and the applications have been formulated in the form of security parameters like confidentiality, integrity and availability as well the access requirements of the roles.

The overall aim of this research is to review the available existing E-governance security models, find out their merits and demerits and analysis of the available models with respect of security in E-Governance. This paper discusses about the possible threats and vulnerabilities for different data locations separately for different models. Here data are considered for four states: data in store, data in process, data in transit and data in destination.

Keywords: *e-governance, ICT, e-government, information, security, etc.*

I. INTRODUCTION

Models of e-governance are still evolving in developing countries. A few generic models have shaped up, which are finding greater recognition and are being replicated. These models are based on the inherent characteristics of ICT such as enabling equal access to information to anyone who is part of the digital network and de-concentration of information across the entire digital network, connecting all sources of information. In simpler terms, information does not reside at any one particular node in the Digital Governance models but flows equally across all the nodes. Hierarchy is inherent in the government departments. Therefore, appropriate administrative reforms and some re-engineering may be required before digital-governance may be really implemented. It needs to be noted here that these models of governance are fundamentally different from those which are popular in developed country due to differences in basic conditions, and perspectives and expectations from good governance. The five important models of e-governance, which can be used as a guide in designing e-government initiatives depending on the local situation and governance activities that are expected to be performed. These models are:

- The Broadcasting Model
- The Comparative Analysis Model
- The Critical Flow Model
- The E-Advocacy/Mobilization Model
- The Interactive-Service Model

1. Broadcasting model

- Broadcasting model is based on mass dissemination of governance-related information which is already available in the public domain into the wider public domain using ICTs.
- This raises awareness among the citizens about ongoing governance processes and government services that are available to them and how they can benefit from them.
- The application of this model using appropriate technologies could reduce the "information failure situations" where citizens are unaware of new and existing services being provided by the government. It can also provide as alternative channel to people to stay updated of governance related information and to validate information received from other sources.

Applications

- Putting governmental laws and legislations online
- Making available the names, contact addresses, emails, mobile numbers of local/ regional/ national government officials online.
- Make available information such as governmental plans, budgets, expenditures, and performance reports online.
- Putting key judicial decisions which are of value to general citizens and create a precedence for future actions online. viz. key environmental decisions, state vs. citizen decisions etc.

Merits

- It enhances 'access' and 'flow' of information to all segments of the society, which is essential to bringing good governance.
- Government can use this model to provide greater governance services to their constituencies, and to enhance the participation of citizens in governance processes.

Demerits

- The model can lose its effectiveness in societies, where the free-flow of information is not possible. This can happen in countries where freedom of speech and expression, or political freedom is restricted, or there are tight governmental controls to censor information.
- The model also loses its effectiveness in situation of optimal ignorance. This happens when citizens are indifferent / not motivated to act upon information available to them, or when governments and decision-makers take wrong decisions, not because of absence of information, but complete disregard of available information.

In this model data are for public use. So main security concern is to maintain the integrity of data. With this data must be available. Keeping in mind about the four locations of data mentioned above, security aspects, threats and vulnerabilities have been discussed in Table 1.

Table 1. Threats & Vulnerabilities of Broadcasting Model.

DATA LOCATION	THREATS	VULNERABILITIES
Data in Store	• Encryption cracking • System failure • Corruption / loss or damage of back up media • Brute force attack	• No Password • Using the same key for a prolonged period of time • Inadequate back up facility • Non adherence to back up policy • Minimum length of the password has not been enforced
Data in Process	• Loss of decryption keys • Theft of credentials • Cross-site scripting • Query string manipulation	• Using the wrong algorithm or a key size that is too small • Password is guessable • Using application-only filters for malicious input • Using non-validated input used to generate SQL queries Relying on client side validation
Data in Transit	• Encryption cracking • Brute force attack	• Using the same key for a prolonged period of time • Distributing keys in an insecure manner • Passing sensitive data in clear text over network
Data in Destination	• Denial of service attacks • Misuse of privileges	• Lack of monitoring of services and activities

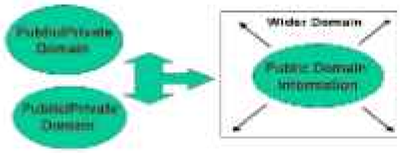
2. Comparative Analysis Model

Comparative Analysis Model is one of the least-used but a high potential e-governance model for developing countries. The model can be used to empower people by comparing cases of bad governance with those of good governance and identifying specific aspects of bad governance, the reasons and people behind them, and how the situation can be improved.

- The model is based on using immense capacity of ICT and social media tools to explore given information sets with comparable information available in the public or private domain.

- The model continuously assimilates "best practices" in different areas of governance and uses them as benchmark to evaluate other governance practices. It then uses the result to advocate positive changes or to influence 'public' opinion on existing governance practices. The comparison could be made over a time scale to get a snapshot of the past and the present situation or could be used to compare the effectiveness of an intervention by comparing two similar situations.

- The strength of this model lies in the infinite capacity of digital networks to store varied information and retrieve and transmit it instantly across all geographical and hierarchical barriers.



Applications

This model could be applied in the following possible ways:

- To learn from past policies and actions and derive learning lessons for future policy-making.
- To evaluate the effectiveness of the current policies and identify key learnings in terms of strengths and flaws in the policies.
- To effectively establish conditions of Precedence, especially in the case of Judicial or legal decision-making (example for resolving patent-related disputes, public goods ownership rights), and use it to influence/ advocate future decision-making.
- To enable informed decision-making at all levels by enhancing the background knowledge and also providing a rationale for action.
- To evaluate the performance and track-record of a particular decision-maker/ decision-making body.

Merits

- Developing countries could very effectively use this comparative model as ICT opens their access to the global and local knowledge products at a relatively low -cost.
- The model is very much based on the existing sets of information.
- There is a vast scope of application of this model for judicial advocacy as landmark/key judgments of the past could be used as precedence for influencing future decision- making. Further, watch-guard organizations and monitor-groups can use this model to continuously track the governance past record and performance and compare with different information sets.

Demerits

- The model requires the ability to analyse and bring out strong arguments which could then be used to catalyze existing efforts towards self governance.
- The model becomes ineffective in absence of a strong civil society interest and public memory which is essential to force decision-makers to improve existing governance practices.

In this model, data must reach to the targeted domain not to all. So confidentiality is great concern here. All possible security aspects, threats and vulnerabilities have been discussed in Table 2.

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Volume: 5 Issue: 5

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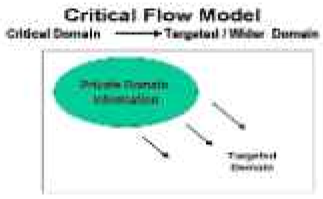
Table2. Threats&Vulnerabilities of Critical Flow Model.

DATA LOCATION	THREATS	VULNERABILITIES
Data in Store	☐ Loss of decryption keys ☐ Encryption cracking ☐ Denial of service attacks ☐ Misuse of privileges	☐ Password is guessable ☐ Password sharing among the peer user ☐ Lack of monitoring of services and activities
Data in Process	☐ System failure (Unavailability of information system) ☐ Corruption / loss or damage of back up media ☐ Brute force attack ☐ Impersonation ☐ Form field manipulation ☐ Cookie manipulation ☐ HTTP header manipulation	☐ Failing to secure encryption keys ☐ Using the wrong algorithm or a key size that is too small ☐ Absence of back up policy ☐ Minimum length of the password has not been enforced ☐ Using non-validated input used to generate SQL queries Relying on client side validation ☐ Failing to validate input from all sources including cookies, query string parameters, HTTP headers, databases and network resources
Data in Transit Data in Destination	☐ Loss of decryption keys ☐ Encryption cracking • Brute force attack • Impersonation • Network eavesdropping • Denial of service attacks ☐ Misuse of privileges	☐ Using the same key for a prolonged period of time ☐ Distributing keys in an insecure manner ☐ Using the same key for a prolonged period of time ☐ Passing sensitive data in clear text over network ☐ Lack of monitoring of services and activities

3. Critical flow model

- The model is based on broadcasting information of 'critical' value (which by its very nature will not be disclosed by those involved with bad governance practices) to targeted audience using ICTs and other tools.
- Targeted audience may include media, affected parties, opposition parties, judicial bench, independent investigators or the general public.
- Those who would divulge such information could include upright officials and workers, whistleblowers, affected parties and those who were themselves involved in bad governance practices but have now changed their minds or may wish to trade such information for lenient punishments.



Applications

This model could be applied in the following possible ways:

- Making available corruption related data about a particular Ministry / Division/ Officials online to its electoral constituency or to the concerned regulatory body.
- Making available Research studies, Enquiry reports, Impact studies commissioned by the Government or Independent commissions to the affected parties.

- Making Human Rights Violations cases violations freely available to Judiciary, NGOs and concerned citizens.

Merits

- This model is more directed and evolved.
- Different organizations can use it differently depending on the aspect of governance they situation they want to address.
- The model corrects information failure, raising awareness about the bad governance practices.
- The model exerts indirect pressure on the concerned governance institution / policy-making body to move away from optimal ignorance attitude to reform, and take into cognizance the interest and opinion of the masses in decision-making processes.

Demerits

- The model may not work in cases where the governance mechanism does not allow public debates and opinions, and censures all information of critical nature. This model unlike the Broadcasting/ Wider-Dissemination model would be more effective in situations of Optimal Ignorance of the Government.

In this model, the analysis is done based on old records. So existing data validation is the main issue. All possible security aspects, threats and vulnerabilities have been discussed in Table 3.

Table 3. Threats & Vulnerabilities of Comparative Analysis Model.

DATA LOCATION	THREATS	VULNERABILITIES
Data in Store	• Encryption cracking • System failure • Corruption / loss or damage of back up media • Theft of credentials	• Failing to secure encryption keys • Using the wrong algorithm or a key size that is too small • Using the same key for a prolonged period of time • Absence of back up policy • No back up copy kept off-site • Use of weak cipher or • hash to make password non readable
Data in Process	• Brute force attack • Form field manipulation	• Inadequate back up facility • Non adherence to back up policy • Using input file names, URLs or user names for security decisions
Data in Transit	• Network Eavesdropping	• Passing sensitive data in clear text to network
Data in Destination	• Encryption cracking • Brute force attack	• Password is guessable • Minimum length of the password has not been enforced

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ISSN: 2454-4248
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4. E-Advocacy Model

- E-Advocacy / Mobilization and Lobbying Model is one of the most frequently used Digital Governance model and has often come to the aid of the global civil society to impact on global decision-making processes.

- The model is based on setting-up a planned, directed flow of information to build strong virtual allies to complement actions in the real world.

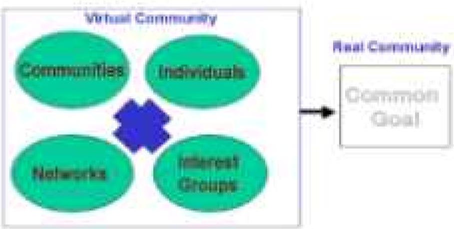
- Virtual communities are formed which share similar values and concerns, and these communities in turn link up with or support real-life groups/ activities for concerted action.

- The model builds the momentum of real-world processes by adding the opinions and concerns expressed by virtual communities.

- The strength of this model is in its diversity of the virtual community, and the ideas, expertise and resources accumulated through this virtual form of networking.

- The model is able to mobilize and leverage human resources and information beyond geographical, institutional and bureaucratic barriers, and use it for concerted action.

Mobilisation and Lobbying Model
Networking Networks for Concerted Action



Applications

This model could be applied in the following possible ways:

- Fostering public debates on issue of larger concerns, namely on the themes of upcoming conferences, treaties etc.
- Formation of pressure groups on key issues to force decision-makers to take their concerns into cognizance.
- Making available opinions of suppressed groups who are not involved in the decision-making process into wider public domain.
- Catalyzing wider participation in decision-making processes.
- Building up global expertise on a particular theme in absence of localised information to aid decision-making.

Merits

The model enhances the scope of participation of individuals and communities in debates which affect them and help them build a global alliance.

- A community may no longer find itself isolated but may find an ally for mobilizing effective action through this model. It also creates an effective deterrent for governments and decision-making bodies who are responsive to people's opinion to provide better governance.

- The model could also be used favorably by the government in a positive manner to encourage public debates on issues where the opinion and expertise of civil society is of great importance and therefore could become a tool to enhance democratic practices and improve governance practices (especially in Developing Countries).

Demerits

- This model require a transition period before being adopted on a wider scale.
- It require familiarity of ICT among all the citizens benefited from this model.

E-advocacy model has come to the aid of the global civil society to impact on global decision making process. Security aspects, threats and possible vulnerabilities for this model have been discussed in Table 4.

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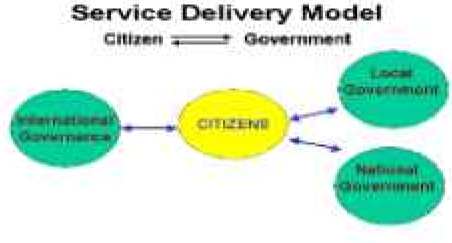
DATA LOCATION	THREATS	VULNERABILITIES
Data in Store	• Encryption cracking • System failure • Corruption / loss or damage of back up media • Brute force attack • Inability to identify actual user	• Failing to secure encryption keys • Complexity of the password is not enforced • Using the wrong algorithm or a key size that is too small • Using the same key for a prolonged period of time • Absence of back up policy • No back up copy kept off-site • Use of weak cipher or hash to make password non readable
Data in Process	• Http header manipulation • Cookie manipulation	• Failing to validate input from all sources including cookies, query string parameters, http headers, database and network resources
Data in Transition	• Information disclosure • Network eavesdropping	• Storing secrets when it is not needed • Storing secrets in clear text • Passing sensitive data in clear text over network
Data in Destination	• Theft of credentials • Inability to identify to actual user	• Distributing keys in an insecure manner • Complexity of the password is not enforced • Use of weak cipher or hash to make password non readable

5. Interactive Service model

- Interactive-Service model is a consolidation of the other digital governance models and opens up possibilities for one-to-one and self-serviced participation of individuals in governance processes.
- The participation is direct and not through representatives.
- It can bring greater objectivity and transparency in decision-making processes, and give a greater feeling of involvement and empowerment, provided that individuals are willing to engage in the governance processes.
- Under this model, the various services offered by the Government become directly available to its citizens in an interactive **Government to Consumer to Government (G2C2G)** channel in various aspects of governance.

Service Delivery Model



Applications

This model could be applied in the following possible ways:

- To establish an interactive communication channels with key policy-makers and members of planning commissions.
- To conduct electronic ballots for the election of government officials and other office bearers.
- To conduct public debates / opinion polls on issues of wider concern before formulation of policies and legislative frameworks.
- Filing of grievances, feedback and reports by citizens with the concerned governmental body.
- Establishing decentralised forms of governance.
- Performing governance functions online such as revenue collection, filing of taxes, governmental procurement, payment transfer etc.

Merits

- It brings every individual into a digital network and enable interactive flow of information among them.
- The government services are directly become available to all the citizens in an interactive manner.

Demerits

- The model firmly relies on the interactive applications of ICT and therefore is a technology and cost - intensive model

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- It would also require elemental familiarity of ICT among the citizens to fully benefit from this model.

In this model, information flows in two ways. So security concern is much higher than all other models. All possible threats and vulnerabilities for this model have been discussed in Table 5.

Table 5. Threats & Vulnerabilities of Interactive Service Model.

DATA LOCATION	THREATS	VULNERABILITIES
Data in Store	□ Encryption cracking □ Loss of decryption keys □ System failure □ Corruption / loss or damage of back up media □ Impersonation □ Denial of service attack □ Inability to identify actual user	• Failing to secure encryption keys • Complexity of the password is not enforced • Using the wrong algorithm or a key size that is too small • Using the same key for a prolonged period of time • Absence of back up policy • No back up copy kept off-site • Distributed keys in an insecure manner
Data in Process	□ Theft of credentials □ Brute force attack □ Misuse of privileges	• Use of weak cipher or hash to make password non-readable • Lack
Data in Transition	□ Information disclosure □ Network eavesdropping	• Storing secrets when it is not needed • Storing secrets in clear text • Passing sensitive data in clear text over network • No password
Data in Destination	□ Theft of credentials □ Inability to identify to actual user	• Distributing keys in an insecure manner • Complexity of the password is not enforced

Conclusion

As the usage of Information Technology is growing very fast, Indian government is making many efforts to provide services to its citizens through e-Governance. Although Indian government is spending a lot of money on e-Governance projects but still these projects are not successful in all parts of India. Unawareness in people, local language of the people of a particular area, privacy for the personal data of the people etc. are main challenges which are responsible for the unsuccessful implementation of e-Governance in India. Government must take some actions to make the people aware about the e-Governance activities so that people may take full advantage of these activities and e-governance projects can be implemented successfully. The participation of people can play a vital role in implementation of e-Governance in India.

In summary, this paper presents a methodology to formulate the security architecture of the different G2C applications from their identified models. The methodology and the resulting security architectures can be used for the development, upgrade and audit of the G2C applications in a model-driven manner. Information security is the ongoing process of exercising due care and due diligence to protect information, and information systems, from unauthorized access, use, disclosure, destruction, modification, or disruption or distribution. So access controls for different stakeholders for different data locations have been defined.

The never ending process of information security involves ongoing training, assessment, protection, monitoring & detection, incident response & repair, documentation, and review. In this paper, major contribution is the security requirement analysis of the overall G2C applications according to the models.

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International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 9 Issue 5, May- 2019
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

PRAGMATIC STUDY OF INTANGIBLE ASSETS VALUATION IN FINANCIAL ANALYSIS

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ABSTRACT

The purpose of this paper is to review literature devoted to intangibles and their valuation and give examples of the methods that can be used for valuation of individual intangibles in financial terms. The paper presents a systematic study of articles dedicated to intangible assets and their valuation. This article presents the definitions of intangibles, intangible assets, knowledge assets and other related terms. These terms are used interchangeably in spite of their different meanings. Differences and relations between these terms are clearly explained. The paper also proposes the list of basic intangibles with suggested methods for their valuation in financial terms. Income and cost approaches should be used mainly in this purpose. Market approach has only limited use.

The paper calls for development of framework comprising list of the most important intangibles, proposals of methods used for their valuation and examples of their use. This framework can be helpful for organization, which are confronted with a difficult task of intangibles valuation.

Keywords: Intangibles, Intangible assets, Intellectual capital, Knowledge, Valuations

1. INTRODUCTION

By the end of the last century the economic literature has witnessed an increased interest in intangible assets, intellectual capital, knowledge assets, and other related terms. To date many articles, books and studies have been written on those terms. Some of them are mentioned throughout this article. These works, however, have not produced any consensus in many issues yet (Serenko & Bontis, 2013). A similar situation is observable in the valuation of intangibles, which also received a considerable attention. None of the published methods has become a commonly used method worldwide (Al- Musali & Ismail, 2014). This paper is interested in the methods for valuation of individual intangible resources in financial terms. These methods are called financial valuation methods (Andriessen, 2004) or direct intellectual capital methods (Sveiby, 2010). Different categories of measurement approaches

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 9 Issue 5, May 2019
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

2.1. INTANGIBLES

Probably the most common interchanged terms are intangibles and intangible assets. Cañibano, Covarsí and Sánchez (1999) claim that intangibles may be either assets or liabilities – intangible sources of expected economic benefits or losses. If authors do not deal with intangible liabilities, intangibles then agree with intangible assets. Sveiby (1998) cares just about intangible assets. According to him, the corresponding liability on the other side of the balance sheet is invisible equity, for instance the difference between market and book value of the company. If the positive difference between the market and the book value of the company is regarded as a consequence of the existence of the unrecorded intangible assets, then, as reported by Harvey and Lusch (1999), if there is a negative difference, the unrecorded intangible liabilities exist. Examples of intangible liabilities are weak strategic planning, unsafe working conditions, poor reputation of the firm and so on. Caddy (2000) distinguishes between intangible assets and liabilities too. Correspondingly to Harvey and Lusch (1999), Caddy (2000) argues that if there are intangible assets, from an accounting perspective they have to be balanced by intangible liabilities. Some other contributors to the concept of intangible liabilities can be found in the paper by Parra, Simo and Sallan (2006).

According to Caddy (2000), an intellectual capital is the difference between intangible assets and liabilities. However, the difference between intangible and intellectual exists and we get to it later in this paper. Therefore it is more precise to title the difference between intangible assets and liabilities as intangible capital. When drawing up the balance sheet, it is not sufficient to put intangible assets on the asset side and an adequate "invisible equity" on the other side. A correct way is to put intangibles assets on the left side and intangible liabilities on the right side and only their difference is reflected in the company's value and may be called "invisible equity" or "invisible liability" depending whether the difference is positive or negative.

2.2. KNOWLEDGE ASSETS AND INTANGIBLE ASSETS

Other terms which are often considered as synonyms are intellectual, knowledge and intangible assets. In the literature various definitions of these terms can be found – Kaufmann and Schneider (2004) and Choong (2008) mention some of them. International Accounting Standard 38 (International Accounting Standards Board, 1998) mentions as typical examples of intangible assets computer software, patents, copyrights, motion picture films, customer lists, mortgage servicing rights, fishing licenses, import quotas, franchises, customer or supplier relationships, customer loyalty, market share and marketing rights. But not all of these items meet the following International Accounting Standard 38 (International Accounting Standards Board, 1998) definition of intangible asset: "an intangible asset is an identifiable non-monetary asset without physical substance. An asset is a resource that is controlled by the entity as a result of past events and from which future economic benefits are

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Vol. 9 Issue 5, May- 2019
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

have different advantages, disadvantages, and are best suited for diverse measuring motives. According to Sveiby (2010), financial valuation methods are useful in merger & acquisition situations, for estimates of the financial value of intangible assets and comparisons between companies within the same industry. Outputs of these methods can be used in accounting. Their disadvantage is that by translating everyfsing into financial terms they can be superficial.

This paper aims to provide an overview of different views on intangibles and their valuation. The next section is devoted to intangible assets and related concepts that have been mentioned above. The definitions of these terms are presented and the differences between them are pointed out. This effort is in contrast to frequently used approach that considers all these terms as synonyms and mentions them interchangeably. However, in our opinion, this usual approach just contributes to chaos in this topic. In the third section the basic approaches used for valuation of intangibles in monetary terms are described shortly. After that the intangible assets, which we consider to be the most important for common company, are listed. Proposals of financial valuation methods are offered for each asset or group of assets.

2. TERMINOLOGY

Intellectual capital, intangible assets, intangibles and knowledge assets can be labeled as related concepts. Many authors (Jain, 2000; Lev, 2000; Mayo, 2000; Bontis, 2001; Malhotra, 2000; Sánchez et al., 2001; Marr, Schiuma & Neely, 2002; Lim & Dallimore, 2004; O'Sullivan, 2009) use some of them interchangeably and do not distinguish between them. According to the Organisation for Economic Co-operation and Development (1999, pp. 17), the difference between intangible assets and intellectual capital exists: intangible assets are non-monetary assets without physical substance held for use in the production or supply of goods or services, for rental to others, or for administrative purposes and intellectual capital is the estimated, imputed economic value of intangible assets of a company. Petty and Guthrie (2000) claim that intellectual capital is often considered synonymous with intangible assets and the distinction between them has been vague. Lev (2000) uses the similar approach and points out that in various areas the preferred term differs – in accounting the intangible assets are popular, in the literature on human resources it is an intellectual capital, and the knowledge assets are mainly used by economists. Sánchez et al. (2001) in the final report of the project Meritum – Measuring intangibles to understand and improve innovation management – use the terms intellectual capital, intangibles and intangible assets interchangeably and consider them similar concepts with similar uses.

Next in this section, the view that all these terms can be used interchangeably is not supported. Some definitions of these terms together with the differences and relations between them are mentioned. At the end of the section, the relations between the components of intangibles are drawn in a figure.

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Vol. 9 Issue 5, May- 2019
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

Thornton (2013) lists three broad approaches for estimating fair values and the most used methods for financial valuation of intangible assets:

- market approach – the sales transactions comparison method, the market multiples method;
- income approach – the relief-from-royalty method, the comparative income differential method, the multi-period excess earnings method, the direct cash flow method;
- cost approach – the reproduction cost method, the replacement cost method.

Market methods are based on recent similar transactions and market prices of similar intangibles assets. These data are rarely available, so market approach has only limited use in practice.

The reproduction cost method estimates the costs incurred to reproduce the intangible asset in its acquisition date condition and the replacement cost method represents the costs to acquire a substitute asset of comparable utility today. Thornton (2013) states the cost approach is less widely accepted than market and income approach, especially because it ignores future economic benefits.

The relief-from-royalty method values the intangible asset by discounting royalty payments which the acquirer would have had to pay in an arm's length licensing arrangement to secure access to the same rights. The comparative income differential method (CIDM) estimates the value of the intangible assets as the difference between the value of the business with and without this asset. If reliable direct measurement of future economic benefits is not possible for some intangible assets, then the multiperiod excess earnings method (MEEM) can be used. This method starts with total expected income for a business or group of assets. After the charges for all the other assets are deducted, we get a residual income connected with intangible asset under valuation (Thornton, 2013). The direct cash flow method discounts expected cash flows coming from the intangible asset.

Lagrost, Martin, Dubois and Quazzotti (2010) propose more complex classification and listed some other methods used for valuation of intellectual property.

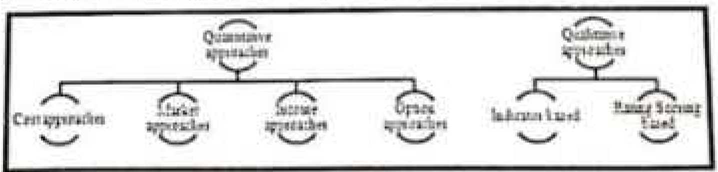

Figure 2. Major approaches for valuation of intangibles (Lagrost et al., 2010)

From quantitative approaches the group of option approaches has not been mentioned yet. It includes for example the real options method based on the Black-Scholes formula, the Monte

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Vol. 9 Issue 5, May- 2019

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2.3. Relations between components of intangibles

Based on the above described differences and relations between the basic terms in the field of intangibles, the Figure 1 was created.

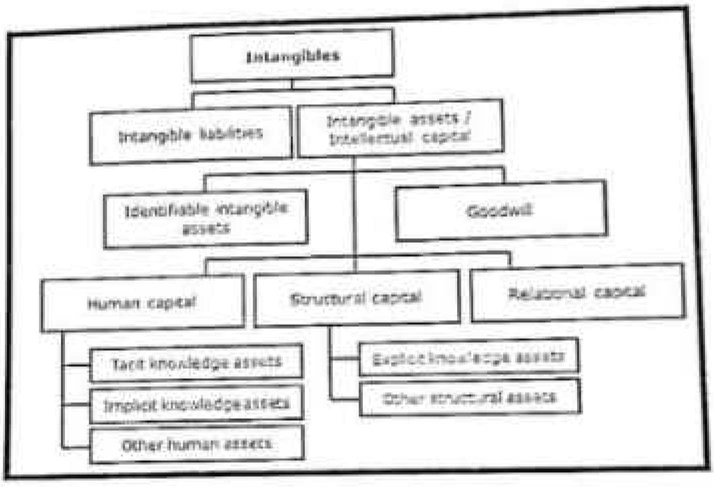

Figure 1. Relations between components of intangibles Intangibles are composed of intangible assets and liabilities. Intangible assets and intellectual capital usually describe the same group of assets. In accordance with International Accounting Standard 38 (International Accounting Standards Board, 1998) intangible assets are divided into identifiable intangible assets and goodwill. Intellectual capital is typically divided into human, structural, and relational capital. Knowledge assets are subset of intangible assets and intellectual capital. Tacit and implicit knowledge assets are parts of human capital; explicit knowledge assets are components of structural capital.

2.4. Valuation of intangibles

The valuation of intangibles is very complicated. This is despite the fact that there are many methods that have been proposed for that purpose. This paper is interested only in the methods dedicated to valuation of individual intangible resources – or small groups of intangibles – in financial terms.

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ISSN(o): 2249-7382 | Impact Factor: 6.939 |

expected to flow to the entity". Thus, International Accounting Standard 38 (International Accounting Standards Board, 1998) is interested only in identifiable intangible assets. Intangible assets in broader sense include also goodwill, which is non-identifiable intangible asset.

The three critical attributes of intangible assets covered by **International Accounting Standard 38 (International Accounting Standards Board, 1998)** are:

- *Identifiability;*
- *Control;*
- *Expected future economic benefits.*

International Accounting Standards (International Accounting Standards Board,1998) are further devoted to these attributes that make a difference between identifiable intangible assets and unidentifiable goodwill. Goodwill is the subject of other standard International Financial Reporting Standard 3 created by the Business Combinations project. Identifiable intangible assets should be separable and arise from contractual or other legal rights. These requirements do not meet a lot of intangible resources which can bring to company future economic benefits and may have significant value.

Definitions of accounting standards focus on those intangible resources that can be identified, separated, and valued in the simplest way. This approach can be considered logical from an accounting perspective, but on the other hand, numbers of important intangible resources are simply regarded part of goodwill or they are accountably unrecognized. According to Cöreoles (2010), the intangible assets can be grouped into visible and hidden, depending on whether they are accountably recognized. Within hidden intangible assets we can find internally generated unidentifiable intangible assets.

The fact that many intangible resources do not meet the conditions for intangible assets mentioned in accounting standards is noted also by Caddy (2000). He distinguishes between intangible assets and intellectual assets. Intellectual assets are hardly identifiable separately, determining their value is more difficult than for intangible assets and their value is also more volatile. Malhotra (2000) states that the worth of knowledge assets is hidden by current accounting and reporting practices.

Up to now there is no established and universally accepted definition of knowledge assets. Boisot (1998, pp. 3) defines knowledge assets as "stocks of knowledge from which services are expected to flow for a period of time that may be hard to specify in advance". This definition clearly says that knowledge assets are just knowledge, not everything intangible. It means that knowledge assets are subset of intangible assets in the broad sense – intangible assets including identifiable and unidentifiable assets.

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3.3. Valuation of intellectual capital

As it was already mentioned, intellectual capital has three basic components:

- human capital;
- structural capital;
- relational capital.

3.3.1. Human capital

For a valuation of human capital there are a wide range of methods. These methods are related to quite popular concept of HRA (Human Resource Accounting) or HRCA (Human Resource Costing and Accounting). Rao (2014) divides approaches to HRA into two groups: cost based and value based approaches. When talking about the most famous models of the valuation of human resources we have to mention the models of Lev and Schwartz (1971), Flamholtz (1971, 1972), Morse (1973), Jaggi and Lau (1974), Ogan (1976), Cascio (1996), Boudreau (1998), and Dobija (1998).

Lev and Schwartz (1971) propose following formula for calculating the value of individual employee:

$$E(V^*_\tau)=\sum_{t=\tau}^{T} P_\tau(t+1)\sum_{i=\tau}^{t}\frac{I_i^*}{(1+r)^{i-\tau}} \qquad (1)$$

where: $E(V_\tau^*)$ – the human capital value of a person τyears old;

$P_\tau(t)$ – probability of a person dying at age t;

I_i^* – estimates of the person's future annual earnings up to retirement;

r – discount rate specific to the person;

t – retirement age.

Lev and Schwartz (1971) assume that the employee will be working for the company until his death or until retirement. The possibilities of promotion, transfer to another position or leaving the organization for other reasons than death or retirement were taken into account by Flamholtz (1971, 1972).

Valuation of all employees on individual basis is very problematic for big organisations. Built on the models of Lev and Schwartz (1971) and Flamholtz (1971), Jaggi and Lau (1974) propose human resource valuation on a group basis. They claim that for the homogenous groups of employees it is easier to predict career movements and probability of leaving the company.

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(2014) come with calculation of its value at retirement – it is a good example of this approach.

3.2.2. Explicit knowledge

Explicit knowledge includes all recorded and stored knowledge of an organization.

Basic types of explicit knowledge are the following:

- intellectual property;
- other knowledge such as documented knowledge, product specifications, manuals, technical documentation, written processes and procedures, instructions, recipes, formulas, models, schematics, diagrams, designs, concepts, prototypes, algorithms, scripts, in-house developed software.

For intellectual property measurement the methods mentioned by Lagrost et al. (2010) can be used. Market and income approaches should be preferred.

Use of market approach for other knowledge assets is usually limited. If it is possible to reliably estimate cash flows caused by these intangible assets, then the income approach is a better choice than the cost approach.

Another way for measuring the knowledge assets, especially organizational processes, is knowledge value added analysis. It was proposed by Kanevsky and Housel (1998). It identifies the core processes of organization and determines the knowledge required to execute each process.

Common measures used to estimate this amount of knowledge are:

- the time required to learn the process;
- the number of process instructions;
- the length of the sequence of binary questions – bits – required to complete the process (Marr, 2005).

Knowledge value added analysis assigns the revenues and costs to organizational processes and compare them in terms of relative productivity. According to Rodgers (2003) knowledge value added analysis methodology provides an objective measure of knowledge asset performance, but it falls short in capturing value for mergers, acquisitions, purchase or sale of separable assets, lawsuits involving intellectual property infringement, tax liability, and corporate alliances. This statement indicates that usage of knowledge value added analysis for valuation of all knowledge assets is unrealistic. On the other hand, this methodology seems to be an interesting way to measure and compare effectiveness of organisational processes.

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determining this amount, the outcome of recent similar transactions can be used and multiples may be applied.

Finally, according to International Accounting Standards Board (1998) the entity may estimate the fair value using techniques such as discounting estimated future net cash flows from the asset or estimating the costs that an entity avoids by owning the intangible asset and not needing:

- to license it from another party in an arm's length transaction;
- to recreate or replace it.

After the initial measurement, intangible assets are later valued by following models:

- cost model – initial cost less accumulated amortization and impairment losses;
- revaluation model – revalued amount based on fair value less any subsequent amortization and impairment losses – applied if fair value can be determined from an active (International Accounting Standards Board, 1998).

As mentioned earlier, goodwill is not considered as an identifiable intangible asset. It is measured as the difference between the market value of an entity and the carrying amount of its identifiable net assets at any time. Expenditure to acquire or generate non-identifiable intangible assets internally is recognized as an expense when it is incurred (International Accounting Standards Board, 1998).

3.2. Valuation of knowledge assets

For valuation of knowledge assets it is important to identify organization knowledge and knowledge of employees first.

3.2.1. Tacit and implicit knowledge

To evaluate the group of knowledge of the employee, it is necessary to separate knowledge from other parts of human capital. If we want to evaluate his/her particular knowledge, then we have to isolate this knowledge from his/her knowledge base. It means that value of tacit and implicit knowledge cannot be easily derived from wages, and it seems to be even more problematic to determine what increases in financial flows they will cause.

Possible options for their valuation are:

- cost approach – estimate how much it would cost to gain this knowledge;
- market approach and income approach – estimate a change in the employee's wage offered in the market due to the specific knowledge and calculate its current value – for instance what is the difference between the average salary offered for an economist with knowledge of English and German and for the economist only with knowledge of English; Saiz and Zoido (2005) estimate wage premium for college graduates who can speak a second language; based on this paper The Economist

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Carlo method, and the binomial expansion based on decisional tree (Lagrost et al., 2010). There are also semiqualitative approaches for measuring intangibles assets. Verbano and Crema (2013) mention some articles adopting semi-qualitative method and propose an integrated framework for intangible capital measurement following a semi-qualitative approach.

Forty-two other methods for intangibles measurement are listed by Sveiby (2010), whilst thirteen of them are categorized as direct intellectual capital methods, which should estimate the monetary value of intangible assets by identifying its various components. Some of these methods are interested only in human capital – they are HRCA – Human Resource Costing and Accounting (Flamholtz, 1985; Johanson, 1996), HRS – Human Resource Statement (Ahonen, 1998), and Dynamic Monetary Model (Milost, 2007). Citation-Weighted Patents developed by Dow Chemical and described by Bontis (2001) are focused only on patents and intellectual property. Method of Sullivan (2000), IVM – Inclusive Valuation Methodology (M'Pherson & Pike, 2001), and EVVICAE – Estimated Value Via Intellectual Capital Analysis (McCutcheon, 2008) do not evaluate individual intangible assets. The Value Explorer (Andriessen & Tissen, 2000) and Total Value Creation are interested in core competencies and valuecreating activities respectively. Both methods propose use of discounting cash flow method (Stone & Warsono, 2004). Discounted cash flow method is suggested also by Nash (1998) in his Accounting for the Future. Brooking (1996) recommends traditional approaches – cost, market, and income – for financial valuation of intangible assets. FIMIAM – Financial Method of Intangible Assets Measurement (Rodov & Leliaert, 2002) calculates realized intellectual capital and based on top managers' suggestions divides this value between the most important components of intellectual capital. A big disadvantage of this relatively simple method is a high degree of subjectivity. All these thirteen methods can be useful, but they do not bring an important contribution to financial valuation of individual intangible assets. They have not replaced traditional methods which are still preferred in this field.

3.1. VALUATION OF IDENTIFIABLE INTANGIBLE ASSETS

According to International Accounting Standard 38 (International Accounting Standards Board, 1998), an intangible asset shall be measured initially at cost. Cost of a separately acquired intangible asset comprises its purchase price and any directly attributable cost of preparing the asset for its intended use.

International Accounting Standards Board (1998) states that for intangible assets acquired in business acquisitions the cost is its fair value at the acquisition date. The most reliable estimate is quoted market price in an active market. But such a price is rarely available for intangible assets. Then the fair value can be estimated based on the price of recent similar transaction. If there is no active market for an intangible asset, fair value is the amount that the entity would have paid for the asset, at the acquisition date, in an arm's length transaction between knowledgeable and willing parties, on the basis of the best information available. In

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Commercial software and information systems are the substance of the fourth group. Their valuation is usually based on market prices.

3.3.3. Relational capital

Relational capital consists of relations with customers, suppliers and partners, image, brand, reputation, customer loyalty and satisfaction, connections with suppliers, distribution channels, franchising and licensing agreements, etc.

Many of these intangible assets cannot be easily transferred from one entity to another, especially organisation relations with other parties. It is practically impossible to buy them. We can try to estimate their fair value through incremental financial flows or other income methods, but this task is very challenging. Therefore relational capital is usually measured by non-financial indicators. However, some methods used for valuation in financial terms exist.

Franchising and licensing agreements can be valued through discounting expected cash flows or relative valuation models (Damodaran, 2008).

For brand equity valuation, Salinas and Ambler (2009) present several models divided into three traditional groups on the cost, market and income methods. Salinas and Ambler (2009) cannot find current providers of cost methods and market methods have only limited use according to them. They compare income methods based on several criteria and list their advantages and disadvantages. Final choice of the method depends on the aim of valuation.

Valuation of reputation is easiest in its loss. After the scandal such as the Deepwater Horizon oil spill, the decline in the BP company's value largely corresponds to the loss of the reputation. Otherwise, it can be estimated from customer or market surveys. Customer surveys, market surveys, competitive analysis, and evaluation of ROI are methods suggested for measurement of some parts of relational capital by Brooking (1996).

Léger (2010) proposes the valuation of relational capital based on relational investments. Relational investments are investments to build and sustain network of suppliers and they include investments to finding competitive and innovative suppliers, establishing relationships, aligning business processes, training partners and, when necessary, managing conflicts and renewing agreements.

He calculates the value of relational capital as follows:

$$URC_{MV} = \alpha + \beta(URI_t) \qquad (3)$$

where:

URC_{MV} – market value of the upstream relationship capital;

β – industry's average expected return on relational investments;

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International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. [illegible] Issue [illegible], May [illegible]
ISSN(o): [illegible] | Impact Factor: [illegible] |

They calculate the expected economic value of employees as follows:

$$[illegible]$$

where:

[E] total expected economic value of employees;

[T] matrix of transitional probabilities after t time periods;

[N] vector $[N_1, N_2, \ldots N_k]$, N_i being the number of employees in rank i at time t_0;

[V] vector $[V_1, V_2, \ldots V_k]$, V_i being the economic value of an employee of rank i;

n number of periods;

r discount rate;

k number of different ranks in the firm.

Mentioned models may be applied to estimate the value of individual employee or group of employees. Evaluation of individual parts of human capital is more challenging. The cost approach seems to be the easiest way to do it.

3.1.2. Structural capital

Knowledge falling under this category was already mentioned. Furthermore it comprises intangible assets in the four basic groups.

Organizational structure, corporate culture, rules, norms, and routines perform as the first group. These assets usually cannot be sold separately, but they may be acquired by franchising. Therefore their valuation can be based on expected cash flows from potential franchising. Of course, the value of some other intangible assets should be deducted from the value of franchising. To solve this problem the MEEM may be used. In many cases these intangibles have very low value for other organisations.

The second group is created by customer list, databases, and relevant information. If a duplicate is easily obtainable the fair value of customer list and similar databases is often estimated by cost approach. If these databases or information are not easily reproduced, or they represent a key advantage of the business, the income approach may be more appropriate (Thornton, 2013).

Website and domain name are involved in the third group. Value depends on usage. Thornton (2013) recommends income approach such as the relief from royalty method if the domain names are frequently the subject of licensing arrangements and CIDM or MEEM if the business relies heavily on internet revenues. In other cases, especially when financial flows do not exist or their estimation is impossible, the value can be determined by cost approach.

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Available online at: http://euroasiapub.org
Vol. 9 Issue 5, May- 2019
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

URI$_t$ – total relational investments.

Abnormal return on relational investments can be achieved by the company. It is the difference between an individual performance and the average market performance (Léger, 2010).

4. CONCLUSION

A lot of papers were published about intangibles and their valuation. Nowadays it is needed to find the consensus between them. In this paper our view on intangibles and related terms is presented. Intangibles comprise intangible assets and intangible liabilities. International Accounting Standards are interested only in identifiable intangible assets which have to fulfil the requirements of identifiability, control, and existence of expected future economic benefits. Other intangible resources are part of goodwill. Knowledge assets are stock of knowledge, so they are a subset of intangible assets in the broad sense. More popular is concept of intellectual capital. It is composed of three parts: human, structural, and relational capital.

Valuation of intangibles is still a very complicated task, although many different methods have been already proposed. Basic methods for valuation of individual components of intangibles and intellectual capital in monetary units were mentioned in this paper. For valuation of identifiable intangible assets the market, income, cost, and option approaches are used. In the chapters dedicated to knowledge assets and intellectual capital, their basic components are listed with some methods suggested as applicable and appropriate for their valuation.

The interest of academics and practitioners should be given to valuation of intangibles liabilities, which are usually overlooked. However, they are important part of intangible statement in many cases. Volkswagen is a good current example of company with a bad reputation missing on the right side of its statement.

Widely accepted list of components of intangibles or intellectual capital with possible valuation methods and examples of their use would be very useful for organisations. The work presented by Thornton (2013) is a good illustration of this approach that should be followed and extended to whole intangibles.

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 9 Issue 5, May- 2019
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

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Available online at: http://euroasiapub.org
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ISSN(o): 2249-7382 | Impact Factor: 6.939 |

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Available online at: http://euroasiapub.org
Vol. 9 Issue 5, May- 2019
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International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 9 Issue 5, May- 2019
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

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ASCENT INTERNATIONAL JOURNAL FOR RESEARCH ANALYSIS
(A Bi-Lingual Multi-Disciplinary Peer Reviewed International Quarterly Journal)
Jan. – Mar. 2019 Vol. IV ISSUE, I Impact Factor (PIF) 2.706, Indexed in I2OR, Registered & Listed at I2OR

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A Study on Application of Remote Sensing Techniques with Reference to Udaipur City

*Dr. Jyoti Bhatnagar

Abstract

Remote sensing technique has emerged as an effective tool for systematic survey, analysis, and better management of natural resources (land, soil, water, forests, mountains) along with the monitoring of desertification, flood, drought, and landform change. It provides a vast scope to explore, identify, and analyse the natural resources of undeveloped regions. It documents the dynamic changes in physical processes and resulting landforms, usually by satellite images. This paper provides a general overview of remote sensing. While this technique has been used on beaches, valleys, and other landforms, the main concern of this paper is its role in geography.

Keywords: Remote, Sense, flood, Geographical Information system (GIS)

INTRODUCTION

Geographical Information system or GIS has become a slogan in the present-day Scientific literature. It has attained a status of multidiscipline. The thrust area basically meant for geographers has been taken over by resource, scientists, physicists, computer scientists, electronic engineers, surveyors and statisticians, apart from the remote sensing application scientists. All have a say in this matter. Nevertheless, due to such interactions, this multi-disciplinary thrust area has developed very fast during last decade of the century. Everybody would like to plot the information in order to get a spatial pattern of a particular theme. The computer companies, electronics industries, programmers have accepted this idea as a challenge.

With the possibility of using vector and raster information for GIS, there has been an impetus to use the remote sensing data at least as one of the inputs. GIS does provide a right opportunity for much desired integration of remote sensing data with the collateral data. The remote sensing companies would like to push the concept that the GIS application is only a step after processing the remote sensing data. There are computer companies which will plead for a total solution, i.e. integration of aerial photography, digital mapping, digital image processing, data base management system (DBMS). an of course field information.

REMOTE SENSING AND GIS

From the recent trends is appears that all the mapping related technologies are coming closer and merging. The digital image processing and the GIS can now be integrated. The hardware requirements have much in common and the vendors are coming forward with interface solutions for both the programmes. If the basic GIS work is done in raster (or scan) format it is more the easy to connect with the remote sensing data. Contrary to the scenario in the near past, the GIS is having more and more raster data. This is also due to this reason that scanning is becoming common now a day. On the other hand, the vector digitization takes a long time.

There is certainly a possibility to include the remote sensing data as one of the inputs. The satellite data cannot be exactly be superimposed on a map of specific project. Apart from having different projections, the remote sensing data has its own inherent problems. There are standard procedures to recreant this information according to a geographic base.

For the development of remote sensing-based GIS, whether the data is to be rectified first and then manipulated for different themes, or vice versa is a debatable issue. Both have their own advantages and disadvantages. The rectified remote sensing data can readily be used for bringing out a variety of themes. However, image processed remote control points (GCPS) can easily be identified which in turn contributes to develop better mathematical model between the map and image, or image to image. There can be mid-way as well.

The remote sensing data can be enhanced by basic image processing techniques, such as contrast stretching or filtering, and then rectification. The rectified data can now be used for more serious image processing initiatives. such as band rationing or principal component analysis.

The processed remote sensing data can be a valuable input in the GIS. The relevant data can be extracted and form one or more layers of information. Some GIS/image processing software does have provision to bring out limit lines of the grey values changes beyond a specific or given limits. These limit lines have to be analysed with other information or ground realities so that they become meaningful. However, such options provide a wide scope for remote sensing data manipulation in order to fit in a GIS.

APPLICATION OF REMOTE SENSING AND GIS TECHNIQUES

The combination of image processing and GIS technologies are enormous. As indicated earlier, they both are coming closer and it is now becoming extremely difficult to differentiate each other. The problems of transfer of data are also being circumvented. The private companies are combining their efforts in this direction (Parker, 1991)

The most common application of this combination is the land cover mapping. In addition to areas photographs, it also provides a synoptic view of the surface features. Due to its repeatability and scope of manipulation, it has a edge over the photographs. Further, such a combination is preferred where the integration of spatial data with current information is required, such

as land Information System (LIS). Recently, GIS packages are also supported by Digital Terrain Models (DTMs) which has further enlarged the applicability. For example, in case of the Canadian GIS, "the widespread distribution of lands at and SPOT imagery, and the availability of digital elevation models and street files in many countries have certainly lead to applications well beyond those used to justify the data compilation." (Goodchild, 1992)2.

With better resolution and with always improving software, the topographical mapping requirements are being met by GIS remote sensing combination. It has almost become unavoidable source for cross checking or updating in digital surveying. Furthermore, the GIS software can now accept the Global Positioning System (GPS) information in their programme, which is an additional advantage. (Prithvish nag & M.kudrat 1998).

ANALYSIS OF URBAN FEATURES

We have repeatedly noted that satellite remote sensing is an important source of information for urban analysis at the territorial scale. In that sense, digital image data not only provide a means of exploring and exemplifying existing hypotheses and models, but also for constructing new theories of urban areas by defining and identifying relevant spatial entities and examining the relationships between them. Despite this, the qualitative (categorical/ordinal scale) nature of the land use categories identified through the image classification process, and the discrete spatial distribution of the regions that defines, limit the value of such images in mathematical models of urban areas. The letter frequently presupposes the presence of one or more

quantitative (interval/ratio scale), spatial continuous variables. Consequently, land use data sets derived from remotely-sensed images may need to be further transformed if they are to be readily integrated in many urban models. Where this is achieved, the transformed data may then be used in a much wider range of applications, including

a) Physical planning (e.g. spatial analysis, impact assessment and other environmental issues
b) Economic planning (eg. accessibility, location analysis, and transport studies)
c) Social planning (eg population and other sociodemographic distributions, urban structures); and
d) Forecasting models (e.g. diffusion and urban growth)

We note in passing, that the accuracy and reliability of the results derived for any of the applications outlined above is dependent on the quality of the input data, and that the process of transforming the image data is not a natural one.

REMOTE SENSING AND GIS FOR STUDIES OF URBAN AREAS

Although we have frequently referred to GIS in this review, it has tended to be in an indirect fashion. Nevertheless, the key role of GIS in providing a framework for spatial analysis of remotely-sensed data products and other sources of spatial data on urban areas is recognized. The integration of GIS and remote sensing has justifiably received widespread and extensive in the recent literature. Most of the scientific and commercial journals have devoted at least one special issue to this subject and this tread will likely increase over the next few years the interface between GIS and remote sensing can be envisaged in one of three different ways

a) Remote sensing can be used as a tool to gather data sets for use in GIS
b) GIS data sets can be used as ancillary information with which to improve the products derived from remote sensing and
c) Remote sensing data and GIS data can be used together for modelling and analysis.

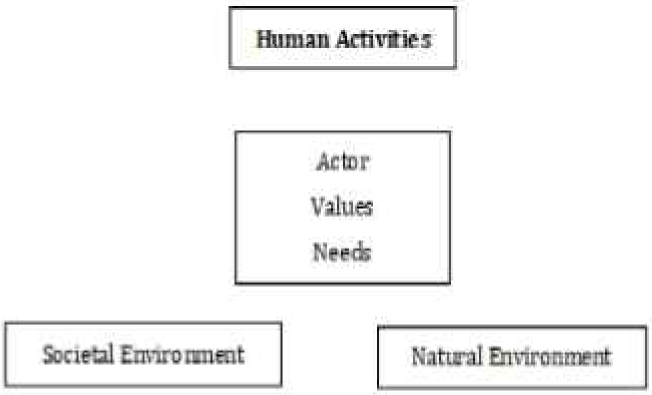
Each of these views is pertinent to urban remote sensing. Urban analysis needs to exploit the capabilities of remote sensing system in terms of their spatial coverage and detail but because of the limitations in terms of distinguishing all aspects of the urban milieu soberly on the basis of their spectral reflectance properties, classification, analyses and models of urban area will always be dependent on ancillary spatial information and the analytical capabilities of GIS. Ultimately, urban remote sensing is not only a meeting point of the social and physical sciences, but it is also a field of research that forms a bridge between remote sensing and GIS.

ENVIRONMENTAL MANAGEMENT

Man desire for ultimate joy and comfort has led him to exploit nature "free" gift to the extent of reducing its natural capacity for self-sustainability. Man in his pursuit of ever faster economic growth, is upsetting the environmental equilibrium or eco-balance and destroying his life support system. Hence environmental management must regulate the demands and activities of man in such a way that the ability of the environment to sustain future development remains unimpaired. Environment management should aim

1. The development of the environment for the human benefit in the integrative ecological, cultural and social process in a holistic manner.
2. The environment quality targets by the set of activities and institutional arrangements.
3. The co-ordinated efforts of the division makers and those for whom decisions are taken.

Environment management is a positive concept, not a negative "half progress" or "back to nature" concept. Process of environmental management is best depicted diagrammatically as under: -



Environmental management employs the following three key concepts: -

(a) System approach: A procedure which recognizes the relationship between natural and man-made systems.

(b) Systems analysis: - It concerns itself with finding solutions to a problem and does not concern itself with applying those solutions.

(c) Systems management: - Consists of actual techniques of management for solving problems.

The management of the environment in general development process in particular requires the steps:

(1) An analysis of the existing environmental situation and behaviour and interaction of the various components of the environment including man.

(2) A study to understand the thresholds (outer limit)

(3) The setting of social, economic and environmental goals, and objectives.

(4) The formulation of a balanced programme

(5) The development of criteria for evaluation and romping programmes. eg. equity, economic efficiency etc.

(6) The promotion, supervision and guidance of such a programme and EIA.

REMOTE SENSING FOR ENVIRONMENTAL STUDIES

Remote sensing involves collection of the data, on environment, by system which is not in direct contact with the object or phenomenon under investigation. Aerospace imageries register reflected or emitted electromagnetic radiation forum the earth environment, on the images which when analysed visually or digitally yield information of importance.

Space bome sensors have the advantages of high ground resolution and respectively. Synoptic view is another advantage to study regional climatic and/or meteorological data. Space borne sensors also have the advantage at recording beyond visible spectrum and in longer microwave regions. Radar, being an active sensor, has the all-weather and all day capability, though cost involved is high. With the advent of SPOT and IRS the high resolution upto 10m and respectively of 9 to 12 days has been realised.

Formulation of environment management plans are always preceded by studies about the state of environment and impact of and planned activity on it. There are various attributes relevant of the environment. These are air, water, land, ecology, noise, human, and animal life energy, economics, aesthetics and many other natural and social aspects.

Until recently, the monitoring of various parameters has been done by conventional methods. Recently, the application at remote sensing technology in diversified area has led to on integrated approach in the environmental studies. This modern technology is being applied successfully for resource inventory and its management, dispersion studies, watershed management, land use pattern change detection, weather and clinate analysis, ecology and conservation aspect.

APPLICATION REMOTE SENSING TECHNIQUES AND INTERPRETATION OF SATELLITE IMAGERIES OF UDAIPUR CITY

The Udaipur City is located in southern Aravali hills. The satellite imagery (IRS) presents the picture that the whole city is surrounded by hills and the sites of city can be identified threw the imagery of Udaipur city which provides information about urban area. The city is located in Ahar valley and the urban region can be divided in following sub division:

I. **Upper Ahar Region - Thar, Bargaon, Bedla, Fatehpura Area**

II. **Main City of Udaipur**

(A) Wall city

(B) Out of the Wall City

(C) South Eastern undulating region

(D) Eastern city region

(E) North Eastern industrial area

(F) Middle Ahar

III. **Lower Ahar Valley** - Sevashram Chouraha, Bhoiyon Ki Pancholi, Lakarwas, Kalarwas and Udai Sagar Area. Satellite imagery provides information about the geographical features of the region and which can be studied on the basis of following outline.

(1) Physical Features

(II) Drainage and water bodies

(III) Soil

(IV) Vegetation

(V) Agricultural fields

(VI) Urban area expansion

I. Residential areas

II. Industrial areas

III. Road Transport

IV. Expansion of sub urban areas

1. UPPER AIAR REGION

The satellite imagery is showing the relief features of upper Ahar basin. It can be demarcated from the foot hills of Bhorat plateau to THUR village where river makes small turn towards Udaipur city particularly in north eastern to south eastern direction. Topographical eminence availability of perennial water from natural springs abundance of forest cover, at least in earlier days; insulation, isolation and dense forest were extended there, but today the scenario has been changed due to human activity like Agricultural development, permanent expansion of human habitation. This region can be identified as sub-urban region of Udaipur city. Ahar River originated from this region. This river is non perennial although it has large discharge of water. The satellite imagery shows that the land use pattern has been specially in agricultural activity to industrial expansion.

Soil:

This region has good fertile soil particularly red or dhamani soil being a mixture a brown and black soil contain more An alkali, less or nitrogen or organic metal and is therefore less productive. Thur is located on the bank of Ahar in this region where yellowish-brown foothill soils can been seen.

Vegetation:

Vegetation is an important aspect for the study of urban region. It is to be noted the region is facing the problem of deforestation due to expansion of Udaipur city. The region is characterized by a rich bio-divercity in earlier days, but today the vegetal part is decreasing day by day. The satellite imagery provides information about extension of forest areas it can be seen that most of the foot hills are looking open rocky area where vegetal part is very much poor. Near Kavita, village it has been observed that hills are blank in point of view of vegetation. Most dominate species Dhak, Neem, Jamun, Pepal, Bargad etc.are found in this region. Now more attention is required for the plantation in this region. Imagery is showing that some patches of vegetation is being developed particularly near the bank of Ahar river or some patches are also located along with the road or agriculture fields

Agricultural Fields:

The study of agricultural activities is based on field observation particularly in areas of nearby Kavita village. Cultivation of various food crops, vegetables can be seen in this region along with the Ahar river. The studies have been made to define out relationship between various geographical phenomena and human activities, which are taking place in this region. He geographical environment has changed due to rapidly changes in agricultural land-use pattern.

Urban Area Expansion:

This region is also experienced with urban expansion of Udaipur City. The imagery presents the trends of expansion of residential area along with the main road where some patches of new residential areas can be seen on the other hand expansion some residential colonies are taking place between Bargoan to Thur village. After Thur some agricultural farms have been developed by local people recreational facilities to tourist, those who wants to stay in natural environment.

Industrial Expansion:

Satellite imagery provides information about industrial areas of Udaipur city. The region has two industrial units namely shurti synthetic located near Bargoan area or another unit is located near Mewar Boting. It is interesting to note that the region has much scope of for urban expansion and also for industrial development particularly in Bargoan and Thur area.

Road Transport:

Road Transport can also be observed from the imagery of the region, IRS present the information about the main transport network that can be seen from Udaipur to Gogunda road although the road is not prominently seen due to single track. It is suggested that much planning is required to provide facility to urban commuters.

Expansion of Sub Urban Areas:

Sub urban areas are main forces behind urban expansion of city. Here following aspects can be discussed. this direction due to three aspects: -

(1) Urban expansion is taking palce due to development of resort centre.

(2) Expansion of residential colonies in open areas.

(3) Expansion of industrial areas along with main road.

Middel Ahar Valley:

The satellite imagery is considered as base to study of urban environment of Udaipur city keeping the view in mind that the internal structure of city creates urban environment through this imagery. The main Udaipur city is located in this middle Ahar basin. The city can be demarcated from Chirwa near Ambari in east. Again it is connected up to Kaveda Ki Nall in south than near Dhol Ki Pati than it can been extended up to Goverdhan Vilas in west near Machala Magra and Sajjangarh than Neemuch Mata up to Bargoan area in nothern direction. The satellite imagery gives clear demarcation of city region.

Further this can be divided in following sub region:

(1) Main wall city

(2) North Udaipur city

(3) East Udaipur city

(4) South Udaipur city

(5) West Udaipur between near lakes of Udaipur city

Neelima

Ashish

(1) Main Wall City

The satellite imagery provides indication of urban features about is densely populated where no vacant land is seen in that particular part of city area. This area is bounded by wall in medieval period, and this area is also bounded by lakes in western side where Picchola and Swaroop Sagar are located. On the other hand western part of the area is extended up to Macchala Magra where Sajjan Garden is seen in imagery. The imagery also presents some relief features about expansion of wall city area in surrounding of wall side near Delhigate, Surajpole Kishanpole, Chandpole, Hospital areas. Some field observations have been also conducted during the study, and it has observed that the city wall is located near Patel circle to Udaiapole. After Udaiapole no prominent feature of wall can be seen up to Delhigate area only Delhi gate and Hatipole (big gate) remains and showing the indication of wall of Udaipur city. Other part of wall along with Swaroop Sagar to Chandpole area then Kishanpole area have some indication of city wall anyway the following observation have been taken in to consideration to study the urban into environment.

(i) The wall city is known as the old Udaipur city. This city is originated on the bank of Ahar river and this Picchola lake was constructed by nomadic group of Banjara in 1956. Maharana Udaisingh came from Chittorgarh and decidsed shift his capital here on this particular site because availability of water as well as security point of view. The whole region is surrounding by Aravali hills which present a shape like bowl.

ii) It has also been observed by field study that the residential areas are expanding out of the wall city.many new residential areas are taking place.

iii) No transport road facility is available for heavy vehicle particulalry in wall city.

(iv) No clear functional classification can be seen in the city area all the functions are mixed the misstep like commercial, education, residential areas etc.

(vi) The satellite imagery is also presenting sort of indication about urban environment in terms of vegetation no single patches can be seen in this particular region except areas of Sajjan Niwas garden and Sahelion Ki Bari as some vegetation.

(vii) Imagery is also showing the expansion of lakes like Pichhola, Swaroopsagar, Fateh Sagar etc. The over all environment of this region is not healthy due to unplanned development of city.

(2) North Udaipur City

North Udaipur city area is extended from Hatipole to Badgoan in North Fatehsager to Ashok Nagar and Ahar in east. The following urban features have been studied through field observation.

(i) Resendantion area have much space particularly in Fatehpura, Pologround, Madhuban, Bhopalpura, Ashok Nagar, Sardarpura, these areas are planned areas of city.

(ii) So far development of vegetation is concerned it can be seen along with main roads like Sheli Marg, Pologround Area, Ashok Nagar, Bhopalpura, Durga Nursery main road area.

(iii) Some market canters have been developed particularly in Panchwati, Chatek Circle, Hospital Road, Shastri Circle, Main Ashok Nagar Road.

(iv) Urban environment is compratively better than city area particularly in this part in terms of urban planning. The area has sufficient number of garden like Shahalio Ki Bari, Sukhadia Circle etc.

(v) The recreational activities can also be seen in this area like fountains in Sukhadia Circle, Chatak Circle and Shastri Circle etc. Where fountains hae been provided by municipality for recreation.

(i) City urban transport has also been developed in proper manner particularly in this part of city.

This study reveals that the urban environment draw much attention about sewerage and community services in this north udaipur city region.

(3) Eastern Udaipur

This area is taken into consideration to study of the urban environment. It is extended from Durga Nursery Road, RCA campus, M.B. college road in western side, and Sevasharam up to Pratap Nagar in the eastern side and eastern Ahar area university campus in northern side and up to central school of Pratap Nagar and Rajathan Vidyapeeth Campus in the southern side. The satellite imagery presents the information about expansion of the residential areas, educational instititons, and expansion of industrial complexes etc. It is interesting to note imagery is showing the expansion Zinc Smelter near Udaisagar.

The following features have been studied during the field work This area has much vacant land like archaiological site of arahar culture. Some Agricultural and in urban fringe area particularly Amberi, Dhokli, Berwas etc. Residential colonies are growing in unplanned manner particulary Keshav Nagar, New Bhupalpura, Sunderwas Area, Khempura areatc.

(i) Some new colonyies have also been developed in this area which requires some attention about urban planning, where urban amenities must be provided.

(ii) Four lines road transport have been developed from Surajpol to Debok area during 1996-97 which links Udaipur city to air port.

(iii) This area is also having has green vegetation. Some patches can be seen in imagery like three patches particularly in RCA campus, Durga Nursery Road, M.B. college road and along with the Ahar River.

The over all status of urban environment requires some proper direction of urban planning and should be related to social development well being in urban envi, like health, housing, employment, education, personal security and asscess and urban quality.

Southern Udaipur City

The southern Udaipur city located from Sevasharam area to Hiran Magri area and it is extended upto Goverdhan Vilas area the following urban section can be seen in satellie imagery: -

(i) The Hiran Magri area is one of the longest urban residential area, which has been developed properly through proper urban planing. The whole residential area has been divided in sixteen sectors. Each sector has sufficient social amenities like education, health, community center, park etc.

(ii) The satellite imagery presents some prominent features in terms of expansion of urban area particularly in southern part of Udaipur City. It has crossed the limit of bypass road transport in Goverdhan Vilas and Pratap Nagar area.

(iii) The residential areas have been taking place along with the N.H. No. 8.

(iv) So far development of vegetation is concerned no single part or area can be seen in this area only sec. 11 to 14 other vegetation patches can also be seen in cantonment area near Machhalamagra.

(v) This region has much scope for development of industrial units along with the highway from goverdhan vilas to ameri area and on the side from Pratap Nagar to Dabok area.

(5) Western Udaipur City

This area is located from Swaroop Sagar to Mulla Talai area and it has much scope for tourism development. The following characteristics have been observed during field observation :

i) Hotels are taking place along with lake near Ambamata colony, Master colony, Alkapuri, Civil Lines Govt. Quarters etc. Which creates water pollution in Fateh Sagar Lake.

ii) This area has much scope in Tourism development in various hotels have been developed like Lake Place inside of Pichhola and recently one another Oberai Group has been develop a five star hotel in Haridas Ji Magri area.

iii) On the other hand other activities are also being developed like resorts centres, water parks etc.

iv) The Satellite imagery is also showing some plantation along with the road as well as in hilly area like Sajjangarh and Nai, Nimmach Mata area etc.

The above study reveals the over all status of urban environment which has much scope for urban development. Udaipur city has site of natural environment as well as natural geographical land scape for further development. This city has became a major tourist centre of western India. Geographically, Udaipur city region is known as the Kashmir of Rajasthan which has many water channels, natural lakes, natural landscape, vegetation area, fertile soil. For development of tourist center therefore more attention should be given to landuse planning of the city.

(6) Lower Ahar

The lower Ahar basin of Udaipur city is extended from Sevashram to Udaisagar area. The Satellite Imagery showing the scene where most of the area is also having green vegetation particularly in lower valley region, near village of Kalarwas area, Purohiton ki Madri, Bhioyo ki Pancholi, Udai-Niwas etc., where agricultural fields can also be seen in imagery. On the other hand the main road line from Udaipur to Dabok area presents the scene of industrial expansion along with the road. The industrial area is taking place from Madri Industrial Area to Debari Zinc Smelter area. On the Eastern Side some plantations also been placed in between hilly tracks and city area e.g. near Debari Village. The Temporal variation can be studied through the previous record of forest & present situation. This area is environmentally degraded day by day due to urban expansion, expansion of RIICO industrial area near Debari. Only some patches can be seen along with roads in terms of vegetation. It is concluded this lower valley region is requires much attention for protection of natural environment.

CONCLUSION:

The over all study reveals that the status of urban environment can be improved through proper planning. This city region is facing the problem of environmental degradation. This region was known as Ahar civilization centre due to availability of natural resources of water, green vegetation, fertile soil but today the situation has changed due to problems of scarcity of drinking water as well as fertile land in surrounded particularly in sub-urban area. The water of natural lake is polluted due to unchecked human interference with nature. Now time has come that all the lakes must be guard properly, and all the activities like development of Hotels, and tourist activities must be checked properly well-in-time.

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International Journal in Management and Social Science
Volume 07 Issue 08, August 2019 ISSN: 2321-1784 Impact Factor: 6.319
Journal Homepage: http://ijmr.net.in, Email: irjmss@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal

"LEGAL ASPECTS OF CORPORATE GOVERNANCE AND COMPARATIVE ANALYSIS OF ACCOUNTING TREATMENT UNDER COMPANIES ACT 1956 AND 2013"

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ABSTRACT

Good governance encompasses all actions aimed at providing its citizens, a good quality of life. With the rapid change in the business environment and emergence of new regulations by world bodies like EEC, WTO, OECD, World Bank etc. the concept of Corporate Governance (CG) is introduced and also been impetus. Corporate governance provides the fundamental value framework for the culture of an organization, which ensures efficient functioning of enterprise on sound ethical values and principle. It focuses on appropriate management and control structure of a company. The Companies Act, 1956 ("1956 Act") has been in existence, the corporate and business environment has evolved significantly and hence there was a need to revamp the legislation governing companies. The Companies Act, 2013 ("Act of 2013") was enacted on 29th August 2013 after President's assent; however, it will come into effect only upon the notification by the Central Government. The exposure draft of the rules pertaining to the Act of 2013 is expected to be out for public comments very soon.

The Act of 2013 is more of a rule-based legislation containing only 470 sections, which means that the substantial part of the legislation will be in the form of rules. It is expected that the Act of 2013 will become applicable and the corresponding portion of 1956 Act will be repealed in a phased manner.

The Act of 2013 intends to promote self-regulation and has also introduced some progressive concepts like One- Person Company, Small Company, Dormant Company, E-governance, etc. The concept of Corporate Social Responsibility has also been introduced to encourage a socially, environmentally and ethically responsible behavior by companies.

Taking into account, the need of the hour, Accounting Standards Board (ASB) also tries to adopt International Accounting Standards/International Financial Reporting Standards. The Board is continuously issuing accounting standards in various areas as applicable to business houses. Thus the present research paper performs an comparative analysis of various facts and figures related with accounting treatment under companies act 1956 and 2013.

Keywords: *Accounting, Corporate Governance Law, Financial Ratio Analysis, Liquidity ratio, Comparative study.*

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Volume 07 Issue 08, August 2019 ISSN: 2321-1784 Impact Factor: 6.319
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1. INTRODUCTION

Corporate governance is a concept rather than an instrument. It focuses on appropriate management and control structure of a company. Most definitions related to control of a company or managerial conduct. The Cadbury report (UK) states; "corporate Governance is the system by which businesses are directed and controlled". OECD Definition says, "Corporate Governance provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performances are determined." "Corporate Governance is not just corporate management; it is something much broader to include a fair, efficient and transparent administration to meet some well defined objectives. To state simple terms, corporate governance relates to a code of conduct, the management of a company observes while exercising its powers. Quality Corporate Governance not only serves the desired corporate interest, but is also a key requirement in the best interests of the corporate themselves.

Though the terms governance, good governance and corporate governance is increasingly used in development literature since recent times, the concept of governance is not new.

However people in the west stated feeling the need for good corporate governance in early 80s as the corporate misdemeanors increased. Business failure, limited role of auditors, weak accounting standards culminated in loss of control.

The Cadbury committee was set up by the London Stock Exchange to address the dreary financial aspect of corporate performance. The two other committees came afterwards – the King Committee, and the Hampel Committee to diagnose the issues of corporate governance. The Asian financial crisis, recent scandals in US, Italy, India have triggered fresh initiatives of thinking towards good governance. Corporate governance has been much talked in India particularly after 1993.

SEBI in India has taken the initiative in framing new rules and laws to strengthen corporate governance. Committees like Kumar Mangalam Birla committee (2000), Naresh Chandra Committee (2002) brought out reports on corporate governance. SEBI has also constituted a committee on corporate governance under the chairmanship of Shri N R Narayana Murthy.

Presently corporate India is going through a great churning phase, as companies are doing business with global ambition, placing a lot of emphasis on governance and transparency. Recent corporate failures and scandals involving mis-governance and unethical behavior on the part of corporate rocked the corporate sector all over the world, shook the investor confidence in stock markets, and caused regulators and others to question the assumption that most companies do the right thing most of the time. Globally the objective of corporate governance is to maximize long term shareholders value. With the assumption that capital and financial markets are working properly, anything that maximizes shareholder value will necessarily maximize corporate prosperity.

For sound governance, managers need to act as trustee of shareholders, prevent asymmetry of benefits between sections of shareholders, especially between owner-managers and the rest of shareholders. Investment analyst recommends a company based on strength or weakness of a company's governance infrastructure.

Accounting, as an information system is the process of identifying, measuring and communicating the economic information of an organization to its users who need the information for decision making. It identifies transactions and events of a specific entity. A transaction is an exchange in which each participant receives or sacrifices value (e.g. purchase of

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raw material). An event (whether internal or external) is a happening of consequence to an entity (e.g. use of raw material for production). An entity means an economic unit that performs economic activities.

Definition of Accounting

Definition by the American Institute of Certified Public Accountants (Year 1961):

"*Accounting is the art of recording, classifying and summarizing in a significant manner and in terms of money, transactions and events which are, in part at least, of a financial character, and interpreting the result thereof*".

Definition by the American Accounting Association (Year 1966):

"The process of identifying, measuring and communicating economic information to permit informed judgments and decisions by the users of accounting". In the past 57 years during which the Companies Act, 1956 ("1956 Act") has been in existence, the corporate and business environment has evolved significantly and hence there was a need to revamp the legislation governing companies. The Companies Act, 2013 ("Act of 2013") was enacted on 29th August 2013 after President's assent; however, it will come into effect only upon the notification by the Central Government. The exposure draft of the rules pertaining to the Act of 2013 is expected to be out for public comments very soon.

The Act of 2013 is more of a rule-based legislation containing only 470 sections, which means that the substantial part of the legislation will be in the form of rules. It is expected that the Act of 2013 will become applicable and the corresponding portion of 1956 Act will be repealed in a phased manner.

The Act of 2013 intends to promote self-regulation and has also introduced some progressive concepts like One- Person Company, Small Company, Dormant Company, E-governance, etc. The concept of Corporate Social Responsibility has also been introduced to encourage a socially, environmentally and ethically responsible behavior by companies.

Further, the Act of 2013 aims to fortify investor protection & transparency by introducing terms like Insider Trading, Price Sensitive Information, Class Action Suits and other additional disclosures. It also intends to give greater responsibility to the auditors and to widen their role. A National Company Law Tribunal will also be a reality now and therefore the matters which used to linger in courts for years will be swiftly handled by this dedicated tribunal.

Taking cognizance of rapid globalization, provisions for cross-border mergers have been introduced. Merger between small companies, holding – subsidiaries and specified entities can now be done on a fast-track route.

The Act of 2013 is aimed at building a smooth and easy corporate environment along with the new and improved measures of strong investor protection norms and presents a model for other economies with similar characteristics to emulate following are some of the salient features of the new Companies Act, 2013.

Thus the current research endevour analysis the comparative analysis of accounting treatment under companies act 1956 and 2013.

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2. OBJECTIVES A OF RESEARCH

Current research endeavor is focused to ascertain following research objectives:

(a) To analyze the Legal facets of Corporate Governance in India

(b) To comparatively access the accounting treatment in companies act 1956 and 2013

3. RESEARCH METHODOLOGY

The current research study elucidates the comparative assessment of financial performance of selected public and private sector petroleum industries in India with help of the financial analysis like ratio analysis. Hence, it is essentially fact finding study.

- **Collection of data:** In present study data was collected from secondary sources which was published companies selected annuals reports and accounts as well as published literature. The financial statement will be redrafted as per the requirement of companies' act 2013.

4. RESULTS AND DISCUSSION

MAJOR CHANGES OF FACTORS RELATED WITH ACCOUNITNG UNDER COMPANY ACT 1956 AND 2013

Book of Accounts

Major Changes in books of Accounts are depicted in table 4.1 below:

TABLE.1 MAJOR CHANGES IN BOOKS OF ACCOUNTS (COMPANY ACT 1956 -2013)

Companies Act 1956	Companies Act 2013
Section 2(8) provides definition of 'book and paper' and 'book or paper' whereas 'books of accounts' have been defined in Section 209 of the Act.	Section 2(12) defines 'book and paper' and 'book or paper' whereas 'books of accounts' have been defined in Section 2(13) of the Act.
Section 2(17) defines Financial year.	Section 2(41) defines financial year.
Section 209 to Section 223 governs provisions relating to accounts .	Section 128 to Section 137 governs provisions relating to accounts
Revised Schedule VI provides for general instructions for preparation of Balance sheet and Statement of Profit and loss.	Schedule III provides general instructions for preparation of Balance sheet and Statement of profit and loss of a Company
Schedule XIV to the Act provides the rates at which depreciation is to be provided on different class of assets (on WDV or SLM basis)	Schedule II provides Useful Lives to compute depreciation on various assets and manner of computing depreciation
Section 350 providing ascertainment of depreciation	Section 123 (2)
Companies (Accounting Standard s) Rules 2006	Companies (Account) Rules 2014 inter alia, provides: a. Manner of keeping books of accounts.

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	b. Maintenance and inspection of certain financial information by directors. As a transitory provision Accounting Standard rules 2006 continue to be in force till the time new rules are announced. (Rule 7)
Though the Companies Act, 1956 does not define 'Books of Account' , but section 209(1) prescribed the manner of keeping books of account as : 1) Every company shall keep at its registered office proper books of account with respect to: (a) all sums of money received and expended by the company and the matters in respect of which the receipt and expenditure take place ; (b) all sales and purchases of goods by the company ; (c) the assets and liabilities of the company ; and	Section 2 *(12) "book and paper" and "book or paper" include books of account, deeds,* vouchers, writings, documents, minutes and registers maintained on paper or in electronic form; Section 2(3) defining 'Books of accounts' as "books of account" includes records maintained in respect of— *(i) all sums of money received and expended by a company and matters in* relation to which the receipts and expenditure take place;
(d) in the case of a company pertaining to any class of companies engaged in production, processing, manufacturing or mining activities, such particulars relating to utilization of material or labor or to other items of cost as may be prescribed, if such class of companies is required by the Central Government to include such particulars in the books of account :	*(ii) all sales and purchases of goods and services by the company;* *(iii) the assets and liabilities of the company; and* *(iv) the items of cost as may be prescribed under section 148 in the case of* a company which belongs to any class of companies specified under that section; yet to be notified.

Major Changes:

(1) Definition of 'book and paper' and 'book or paper' is modified, so as to include minutes and registers and all documents maintained in electronics form also form part of it.

- Now 'books of account' are specifically defined.
- Companies (Account) Rules 2014 inter alia, provides manner of keeping books of accounts in electronic mode. It reads as;
- Manner of books of account to be kept in electronic mode.- (1) The books of account and other relevant books and papers maintained in electronic mode shall remain accessible in India so as to be usable for subsequent reference.

(2) The books of account and other relevant books and papers referred to in sub-rule (1) shall be retained completely in the format in which they were originally generated, sent or received, or in

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Journal Homepage: http://ijmr.net.in, Email: irjmss@gmail.com
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a format which shall present accurately the information generated, sent or received and the information contained in the electronic records shall remain complete and unaltered.

(3) The information received from branch offices shall not be altered and shall be kept in a manner where it shall depict what was originally received from the branches.

(4) The information in the electronic record of the document shall be capable of being displayed in a legible form.

(5) There shall be a proper system for storage, retrieval, display or printout of the electronic records as the Audit Committee, if any, or the Board may deem appropriate and such records shall not be disposed of or rendered unusable, unless permitted by law: Provided that the back-up of the books of account and other books and papers of the company maintained in electronic mode, including at a place outside India, if any, shall be kept in servers physically located in India on a periodic basis.

(6) The company shall intimate to the Registrar on an annual basis at the time of filing of financial statement-

(a) The name of the service provider;

(b) The internet protocol address of service provider;

(c) The location of the service provider (wherever applicable);

(d) Where the books of account and other books and papers are maintained on cloud, such address as provided by the service provider.

Explanation.- For the purposes of this rule, the expression "electronic mode" includes "electronic form" as defined in clause (r) of sub-section (1) of section 2 of Information Technology Act, 2000 (21 of 2000) and also includes an electronic record as defined in clause (t) of sub-section (1) of section 2 of the Information Technology Act, 2000 (21 of 2000) and "books of account " shall have the meaning assigned to it under the Act.

- Unlike The Companies Act 1956, now manner of maintenance of books of accounts under electronic mode have prescribed along with filling of the details of the service providers with its IP Address, Location of servers etc.
- It is also provided that vouchers be maintained in legible form.
- Audit committee or board is required to evolved a system for storage, retrieval and display of print out of electronic records and disposal thereof.

- **Depreciation**

Companies are required to calculate depreciation as per Company Act as well as Income Tax Act. The methods and amount of depreciation differ under both the statutes. Companies are required to maintain two types of depreciation calculation – one for accounting purpose following Schedule II to the Companies Act, 2013 and the other for taxation purpose according to the provisions of Sec. 32 of Income Tax Act, 1961.

Schedule XIV to the Companies Act, 1956 V/s Schedule II to the Companies Act, 2013

- **Basis for Depreciation Calculation**

As compared to Schedule XIV of the Companies Act, 1956, Schedule II of the Companies Act, 2013, instead of specifying the rates of depreciation for various assets, specifies that depreciation should be provided on the basis of useful life of an asset.

International Journal in Management and Social Science
Volume 07 Issue 08, August 2019 ISSN: 2321-1784 Impact Factor: 6.319
Journal Homepage: http://ijmr.net.in, Email: irjmss@gmail.com
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- **Prescriptive V/s Indicative**

Schedule XIV was prescriptive in nature as it specified minimum rates of depreciation. The Company was not permitted to charge lower rate of depreciation than specified in Schedule XIV. However, higher rate of depreciation were allowed provided sufficient technical evidence is provided with proper disclosure by way of a note in financial statements. Schedule II is indicative in nature as it indicates the useful lives of various assets. As per Schedule II Companies can adopt higher or lower life than those specified in the schedule supported by technical advice.

- **Rates V/s Useful Life**

Schedule XIV prescribed rates of depreciation under Straight Line Method and Written Down Value Method for various class of assets.

Schedule II prescribes useful life of an asset for the purpose of calculating depreciation. The useful life of an asset shall not be ordinarily different from the life specified in Part C of Schedule II. Company may adopt useful life separate from that specified in Part C provided it makes a proper disclosure in financial statements and provides justification supported with technical advice.

- **Methods of Depreciation**

Schedule XIV prescribed rates of depreciation primarily under Straight Line Method and Written Down Value Method for different class of assets. Schedule II specifies three methods of depreciation – Straight Line Method (SLM), Written Down Value Method (WDV) and Unit of Production Method (UOP) for calculating depreciation based on useful life of an asset.

- **Residual Value**

Schedule XIV specified that depreciation shall be calculated on historical cost less residual value. However, limit of residual value of an asset was not prescribed for the purpose of calculating depreciation. Schedule II specifies that the residual value of an asset shall not exceed 5% of its original cost. Company can adopt a residual value different from the limit specified above if it makes proper disclosure and provides justification supported by a technical advice.

- **Amortization of Intangible Assets**

No method was suggested for amortization of intangible assets in Schedule XIV except for amortization of intangible assets Toll Roads created under Build, Operate and Transfer or any other Public Private Partnerships.

Schedule II specifies that intangible assets shall be amortized as per the provisions of AS – 26 Intangible Assets. AS – 26 specifies that intangible assets should be amortized in the ratio of future economic life of the asset.

- **Depreciation on assets up to Rs.5000/-**

Schedule XIV specified 100% depreciation for assets whose cost does not exceed Rs.5000/- whereas Schedule II does not specify for 100% depreciation for assets whose cost does not exceed Rs.5000/-

- **Extra Shift Depreciation** Schedule XIV specified that depreciation for double and triple shift to be provided separately in proportion of number of days for which the company worked for double or triple shift bears to normal working days in a year.

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Schedule II specifies for 50% increase in depreciation for the period for which the asset is used for double shift and 100% increase in depreciation for the period for which the asset is used for triple shift.

- **Component Accounting**

Schedule XIV specified that component accounting approach was optional. Company may adopt component accounting approach.

Schedule II has made component accounting mandatory. If the cost of a component is significant to total cost of an asset and the useful life of that component is different from the useful life of an asset, then the company will have to estimate useful life of the component separately and will have to provide for depreciation on significant components separately than the asset.

- **Transitional Provision under Schedule II**

From the date Schedule II comes into effect i.e. 1st April, 2014, the carrying amount of the asset as on that date

- Shall be depreciated over the remaining useful life of the asset
- After retaining the residual value, may be recognized in the opening balance of retained earnings or may be charged off to Profit and Loss account where the remaining useful life of an asset is nil.

Hence, the company will have to reassess the useful life of its existing fixed assets in accordance with Schedule II.

5. CONCLUSION

From the independence the Companies Act, 1956 ("1956 Act") has been in existence, the corporate and business environment has evolved significantly and hence there was a need to revamp the legislation governing companies. The Companies Act, 2013 ("Act of 2013") was enacted on 29th August 2013 after President's assent; however, it will come into effect only upon the notification by the Central Government. The exposure draft of the rules pertaining to the Act of 2013 is expected to be out for public comments very soon.

The Act of 2013 is more of a rule-based legislation containing only 470 sections, which means that the substantial part of the legislation will be in the form of rules. It is expected that the Act of 2013 will become applicable and the corresponding portion of 1956 Act will be repealed in a phased manner.

The Act of 2013 intends to promote self-regulation and has also introduced some progressive concepts like One- Person Company, Small Company, Dormant Company, E-governance, etc. The concept of Corporate Social Responsibility has also been introduced to encourage a socially, environmentally and ethically responsible behavior by companies.

Taking into account, the need of the hour, Accounting Standards Board (ASB) also tries to adopt International Accounting Standards/International Financial Reporting Standards. The Board is continuously issuing accounting standards in various areas as applicable to business houses.

At the same time, it also revise the existing Accounting Standards as per the need of changing scenario. So far the Accounting Standards Board has issued 32 Accounting Standards. Many of these Accounting Standards are mandatory in nature and are to be followed while

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preparing and issuing Financial Statements by the business houses. Ensuring the compliance is the responsibility of the management of the enterprise.

At the same time, auditors have to confirm that all mandatory Accounting Standards are followed by the enterprise when he carries out the attest function. In last 7-8 Years the number of Accounting Standards has increased significantly and accordingly, it has also affected the preparation of financial statements by the companies. There are significant changes in reporting formats of financial statements of Companies as well in disclosure of policies.

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Social Media And Youth Subculture: A Sociological Study

Prakriti Jain & Nisha Yadav

Abstract

The contemporary society is marked by the advent of new technologies in the world society, most importantly the internet and social media that is accessible to a large audience. Today communication and information technologies have enabled people to share the information instantly. Millions of people from almost everywhere in the world are connected to each other through the communication technologies that include various forms of mass media devices such as electronic media, print media and the internet. In the contemporary society, social media plays a major role in the lives of people, especially the youth. Sites like Facebook, Twitter, Instagram and WhatsApp are common amongst the youngsters. The swift espousal of social networking sites is creating a subculture among youth. It is changing the way young people meet, express and exchange views, form opinion and choose their life patterns. The present study is based on primary sources of data and seeks to analyse the role of social media in creating a new youth subculture in Jaipur city.

Keywords: Social media, Youth, Subculture

Introduction

In contemporary society communication and information technologies have enabled the people to share information instantly. Millions of people from almost everywhere in the world are connected to each other through these communication technologies that include various forms of mass media devices such as electronic media, print media and the internet. They are referred to as mass media because they help to communicate with a large number of people instantly. These forms of media have undergone a rapid change. People can now read newspapers online just by installing an application in their mobile phones or laptop. Information technology has altered the form of human communication. What began as an interaction between people has occupied a public domain. People are engaged in diverse activities on social media; from cultivating friends on Facebook to following and connecting with people on Twitter, Instagram and WhatsApp. While doing so, they constantly upgrade their profiles to maintain the interest of their friends and followers. Social media is also proving to be a financial asset for those engaged in businesses as it helps them to advertise as well as draw potential customers. Further, social media is becoming a platform for social awareness and political debates. In other words, social media has affected almost every age group of society who use it as a platform for diverse activities. It has driven the human communication to a level where face to face

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communication is neither important, nor necessary; as people all over the globe can be engaged through social networking sites. Such engagements facilitate new power dynamics where some are heard loud and better due to greater visibility. It is thus evident that social media has created a whole new sociological world that needs to be explored and revisited. With this background, the current study has been conducted keeping the following objectives in mind:

- To identify the extent of use of Social media amongst the youth of Jaipur city.
- To examine the role of social media in facilitating the spread of new subculture among the youth.

Social Media and Youth Subculture: Conceptual Framework

Social media is defined as, "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content" (Kaplan and Haenlein, 2012)[6]. The Techopedia defines Social Media as 'a catch all term for a variety of Internet applications that allow users to create content and interact with each other. This interaction can take many forms but some common types include:

- Sharing links to interesting content produced by third parties.
- Public updates to a profile, including information on current activities and even location data.
- Sharing photos, videos and posts.
- Commenting on the photos, posts, updates, videos and links shared by the people.[7]

The shift of society from agrarian to industrial and then information society has ushered in a new era where boundaries are disappearing. The boundless use of internet technology has already shrunken the world into a 'global village'[8]. The trends which newly emerge at any stage of society lead to future changes in the society. The evolution of technology is shaping the values, attitudes, social relationships, and behavioural patterns of people, especially the younger generation which has been the fastest to acquire the digital media traits. Nodes and networks of connection are the main basis of information society. Networks are basically a set of interconnected nodes, which promote financial flows with the help of technologies. Almost all the developing and developed countries have witnessed the emergence of network society. There is a very thin blurred line between real and virtual world due to which new possibilities have emerged in social and cultural realms. The advent of internet has given rise to social media which enables the people to stay connected with each other. The interactive feature of this media combined with cameras, search engines and notebooks leads to an increasing demand of communication devices. With the increase in the usage of Social media it has become part of daily life of people. In modern society, media is not only limited to the feature of broadcasting but also interactivity, multimedia and multitasking. Messages can be sent to the people

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in real time which can result in changes in attitude. Technology has become instrumental in shaping public opinion. Social media is a platform for the people to stay connected with the friends, reconnect with the old friends and can also create real life friendships with the people one has never met or with the people who are living far away by sharing similar interests, hobbies and views. All over the world people are spending much of their time on social media through smart phones. The easy availability of smart phones makes it easy for people to use social media. This is increasing the number of users day by day. Social media impacts the youth in almost every aspect of their life cultivating distinct styles, behaviours and interests; offering them a sub cultural identity separate from their ascribed identity.

Subculture can be understood as that social group within a group with a lifestyle that is different from the culture of the group as a whole. The members of these groups have different tastes of dressing, music and lifestyle. But they are not totally different from the other members of the society. People have a choice to become a member of a specific youth culture. Subcultures can be seen as important sources of social identity. The internet and social media is nowadays an important instrument of change in the lives of people. There is no doubt that new technology is significantly impacting the culture .The rapid advancements in the digital technology has brought netizens [1]closer together. Social media facilitates the interaction between people of different cultures. It is emerging as a platform for the easy exchange of ideas, cultural values and views. It provides a platform to people to communicate with family, friends, casual acquaintances and even strangers. This technology is also used in a profound way by social and political movements to promote their cause. The culture of everyday life is now extremely intertwining with the social media. The introduction of online dating sites is changing the way people construct their significant relationships. Social networking sites such as Facebook, Twitter and Instagram help in bringing together people with different backgrounds and cultures and hence are responsible for creating a new culture. The growing importance of virtual world is impacting the way men and women conduct their everyday affairs. It has become prominent in the modern world because it facilitates convenient and efficient communication with the people around the world. The joining of the virtual with the real is the reality of the contemporary culture. The impact of internet especially social media has significantly transformed the lives of the youth.

Social Media and Youth subculture: Theoretical framework

Social media has become an indispensable part of the life of today's youth. It is a penetrative force that has an intense influence on the youth. Various terms are used to describe the youth of this generation like *net generation, millennium generation* and *digital natives*. These tags denote a large group of people especially who grew up in the period which witnessed the expansion of internet and the media-rich environment, with social media becoming the most influential. By using these spaces the youth are gradually becoming empowered. They are able to overcome the geographical limitations by reaching out to the people of specific interests. Social media is thus used for social interaction, online shopping, dating, online gaming, business promotion, etc. Through their innovative presentations on the internet they act as co-producers for the large and global audiences. Online activity is somewhat different from one's offline activities. The youth who is a part of an online community may be geographically dispersed (experiences different hours at different locations) but shares common interests, identical activities and sense of belongingness. By using this virtual space, they can express their real or inner selves because of the anonymity of the internet. People use internet to do old things in new ways. The advent of new media increases the active participation and creation of media content. People are the passive consumers of the content and online information. The online experience of doing certain activities is bringing cultural changes or the emergence of new subculture amongst the youth. The paper examines the impact of social media on the youth within the framework of the Cultivation theory given by Gerbner.

Cultivation Theory

Developed by George Gerbner in 1967, the Cultivation theory states that the continuous exposure of media has great impact on people and can even alter their perception of everyday lives. The viewers of television get influenced through media messages very easily and follow the messages in their real life. According to Gerbner, viewers use media to confirm the way things are. Media's images cultivate the tendencies which are dominant in nature such as cultural beliefs, ideologies and views. The supporters of this theory believe that television viewing can have long-term impact that gradually affects the audience. Large numbers of television viewers are thought to be 'cultivating' attitudes that seem to believe that the world created by it is an accurate portrayal of the real world. These theorists divided the effects of cultivation into two different levels: first is a general belief about the real world, and second is a specific attitude, such as a hatred or respect for law and order, etc. This cultivation of attitudes is based on what is already present in the society and media takes those attitudes which are already present and re-presents them in different ways to their audiences. Many times the audience is unaware of the extent to which they cultivate media. The theory was initially developed to analyze the effects of television on its audience but it can also be applied in contemporary society which harbours different forms of media, especially the social media. Social media has become a major part of people's lives. It has dramatically changed the daily schedule of the people who spend a good amount of time on social media. People absorb the dominant images, styles and the messages from social media. Constant use of social media leads to the 'cultivation' of its customs and culture in the people. They integrate them into their real-world perceptions and judgments.

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Research Methodology

The area selected for the study is urban Jaipur city. The reason for selection is that Jaipur is a hub of major educational and technological institutions and many youngsters are enrolled in these institutions. Therefore, it is an appropriate place to fulfil the purpose of studying the impact of social media on youth. The universe includes youth in the age group of 18-30 years. The sample size comprises of 250 respondents; both males and females. Purposive sampling method has been used. Both primary and secondary sources for data collection were used. The primary data has been collected through structured questionnaire. The research questions for the study are as follows:

Q1. What is the extent of usage of Social networking sites by the youth?

Q.2. Whether Social media is promoting new cultural patterns in Indian society?

The findings of the study are given below:

Sample characteristics

The age of the respondents ranges from a minimum of 18 years to the maximum of 30 years. 30 percent respondents belong to the age group of 18-21years, 26 percent belong to age group of 21-24 years, 23.20 percent belong to the age group of 24-27 years and 20.80 percent belong to the age group of 27-30 years. 10percent of the users belong to low income category i.e., with a monthly family income of below Rs.20,000, 25percent belong to monthly income category of Rs. 20,000-50,000, 25 percent respondents belong to the monthly income category of Rs. 50,000-80,000 and 40 percent respondents belong to the income category of Rs. 80,000 and above. It was also found that 39 percent respondents have more than 900 friends on their social media account. Earlier the number of friends was much smaller (15-20) as compared to this figure. Before the advent of social media, friendships existed in real world. These have been replaced by virtual experiences with no roots. (Baudrillard: 1983) [8].

I) Extent of usage

Diagram 1.1: Popular Social networking sites

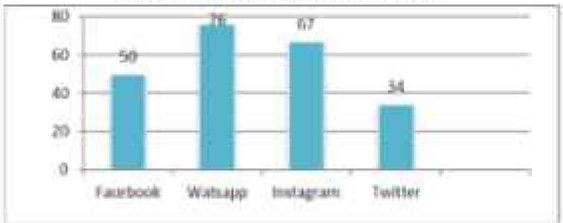

Diagram 1.1 represents that WhatsApp is the most popular texting app amongst youth today with 76 percent respondents as its active users. It gives its users the ability to connect with each other instantly using the phone. WhatsApp call feature is an added advantage, as it can be used for both national and international calling. Instagram is a close favourite, with 67 percent respondents using it, while twitter usage is less as only 38 percent respondents use it. The younger respondents are more active on Facebook (50 percent users). This response is in line with the greater desire of youngsters to share their interests and express their creativity, for which Instagram is a great platform. Also, responses indicate that people are more likely to seek newer and lesser known sites on the Internet such as telegram, viber and hike etc.

Diagram 1.2:Average time spent on Social media

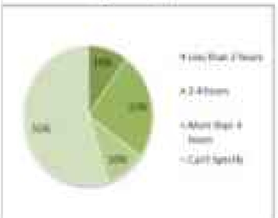

Diagram 1.2 reveals that 55 percent respondents could not specify the average time spent by them on social media. This means that there is a large section of the younger generation that needs to reassess its social media habits. The fact that 45 percent respondents spend minimum of 2 hours on social media indicates that social media is a visible part of people's life; it is not an inescapable addiction for most. The number of hours spent on social media indicates wide use of social media amongst youth.

Diagram 1.3:Reasons for using Social media

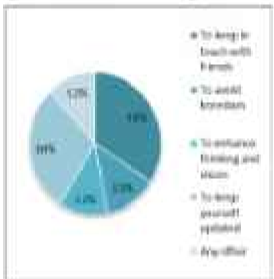

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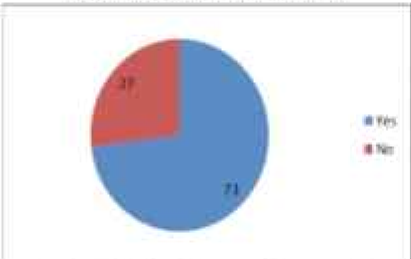
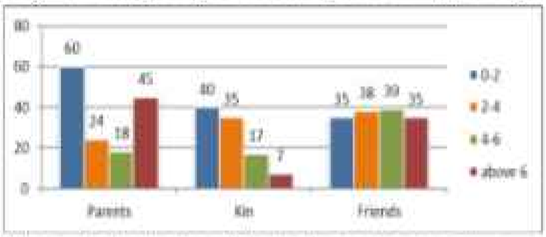
Diagram 1.3; reveals that 30 percent respondents use social media because they wish to stay updated; social platforms makes them aware of the activities around them (i.e., the current status of their favourite celebrities, employment updates, latest trends, social, political and economic developments, etc.). 34 percent respondents use social media to stay connected with family and friends, which implies that the primary objective of social media, human connectivity, is of more value to the respondents. Many respondents also consider social media as a means to enhance their thinking and vision. 12 percent use social media for other activities, like, playing games, making money through Youtube channels and Instagram promotions, learning various skills etc.

Diagram 1.4:Use of Social media at night



From figure 1.4, it is evident that 73percent of the respondents access Social media at night. Although none of the respondents complained of adverse physical symptoms due to late night use of social media, it is being increasingly proved that late night use of Social media increases sleep deprivation and impaired functioning. It also tends to worsen moods by creating a feeling of wasted time.

Diagram 1.5: Average time spent before joining Social media (in percentage)



(Figures overlap because respondents have given more than one answers)

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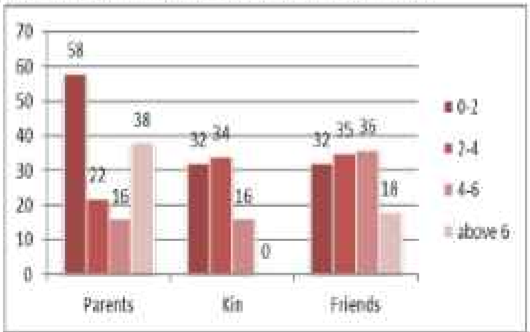
Average time spent after joining Social media (in percentage)



(Figures overlap because respondents have given more than one answers)

Diagram 1.5 reveals that 60 percent respondents used to spend around 0-2 hours with their parents before joining Social media and after joining Social media 58percent of respondents still spend 0-2 hours with their parents. 24percent respondents said that they used to spend 2-4 hours with their parents before joining Social media and 22 percent of the respondents still spend around 2-4 hours with their parents after joining Social media. 18 percent used to spend 4-6 hours with their parents and after joining Social media 16percent spend 4-6 hours with the parents.45 percent of the users used to spend more than 6 hours with the parents but after joining social media only 38percent spend more than 6 hours with the parents. Before joining Social media 40percent respondents spent around 0-2 hours with their kins but after joining social media 32percent spend 0-2 hours with their kins. Before joining Social media 35percent spent around 0-2 hours with the family and after joining Social media 32percent spend around 0-2 hours with the family members.39 percent of the users spent 4-6 hours with their friends before joining Social media but after joining Social media 36percent of respondents spend 4-6 hours with their friends which has reduced. It is evident from the data that there is no significant reduction of time spent with family & friends as a result of use of social media. However it was found that excessive use of social media is resulting in reduced interpersonal face to face interaction resulting in loneliness, anxiety and even depression. This is because despite physical proximity, the communication has reduced drastically.

II) Role of Social networking sites in creating a new youth subculture

Diagram 1.6: Views on marriage

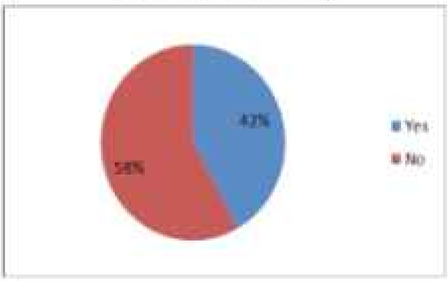


Diagram 1.6 shows that 58 percent respondents do not want to get married because career and freedom are important for them For some , commitment is scary and casual dating is the best alternative. They even opt to live together instead of getting married. Accessibility to apps like Tinder, truly madly and Happn provide an easier option for quick hook ups. Although the social media offers a large market for relationships through dating and other sites, it is felt that casual dating, live in relationships and liberal atmosphere has dissipated the need for marriage. Since a sizeable number of youth is against the very idea of marriage, it can be concluded that social media has become a powerful force in shaping marital decisions.

Diagram 1.7 : Views on Procreation

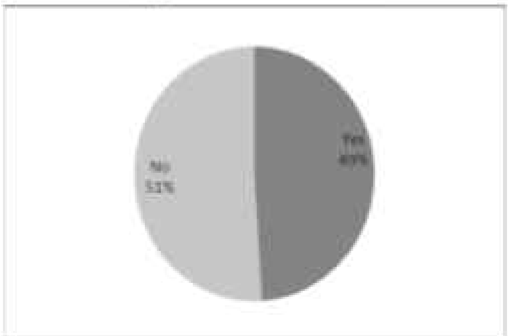


Diagram 1.7 depicts, that 51percent youth are against procreation. They find it important to pursue their career rather than to have children and compromise. They believe procreation can create hurdles in their professional lives. Social media is also promoting such ideas by publishing posts that are anti-natal and propagate moral movements of this nature. However, 49percent of respondents want to get married and have children. They want to have stable families as they consider family as the most important social institution.

Diagram 1.8:Use of Social media for educational purpose

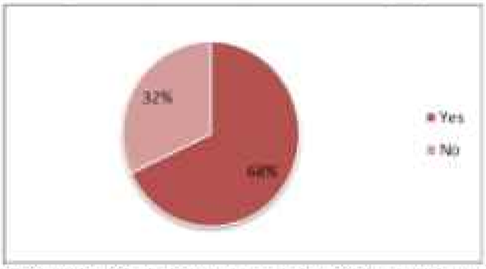
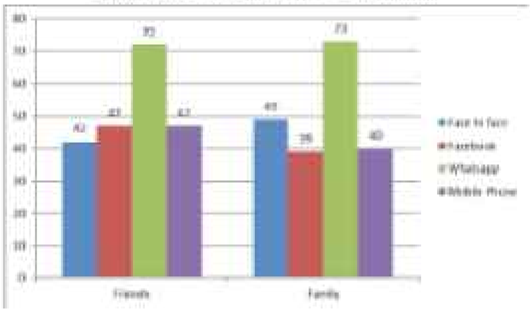


Diagram 1.8 reveals that 68percent youth use Social media for education purposes. Use of Social media for educational purpose includes the ability to use information, to connect with learning groups and other educational institutions. Social media helps them to access various lectures recorded by the experts, helping the learners to connect and communicate both inside and outside the classroom. Social media has extended formal education beyond traditional delivery. Social media thus offers a platform to enhance learning experience.

Diagram 1.9: Preference of mode of interaction



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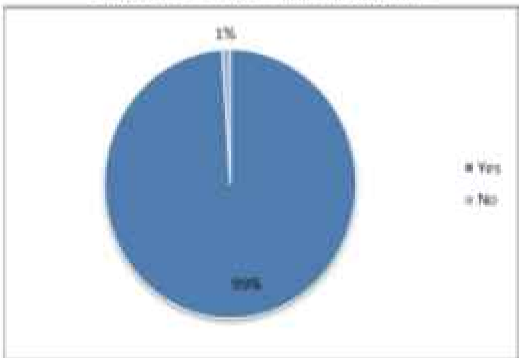
The diagram 1.9 shows that 42percent youth prefer to interact with friends in a face-to face situation.47 percent prefer to communicate through Facebook, 72percent prefer to interact through WhatsApp while 47percent prefer to interact through mobile phones. Similarly, 49percent youth prefer to interact in person with their family members, 39percent prefer to interact through Facebook, 75percent use WhatsApp to interact with family members & 40percent of the respondents prefer to interact through mobile phones with their family members. Social media is dominantly replacing interpersonal face to face communication. This is leading to a decrease in real world personal connection and an increase in virtual relationships. The youth is becoming more typative and less talkative. There is a sharp rise in alternate communication means; indicating a cultural transition.

Diagram 1.10 : Usage of online shopping sites



A study conducted in Jaipur city concludes that buying behaviour is changing rapidly among youth of Jaipur City and is largely based on social media (Chaturvedi: 2017)[7]. Diagram 1.10 shows that online shopping has gained ground due to various shopping sites available on social media. People tend to prefer online shopping because of its convenient use. Shortage of time and attractive offers are the two main factors boosting online shopping stores. Social media plays an important role in influencing the buying behaviour. Social network sites like Facebook offer a vast market to the potential consumer i.e., the youth. Buying decisions and choices are thus being influenced by social media especially amongst the youth as they have both access and knowledge of online markets.

Diagram 1.11 : Use of Emoticons

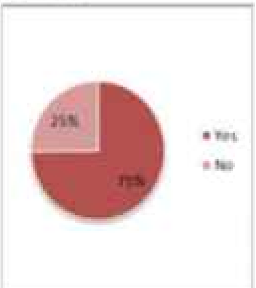


Diagram 1.11 reveals that 75percent respondents use emoticons and acronyms for communicating through Social media while 25percent of respondents do not use emoticons and acronyms. The reason behind using emoticons is the feeling that emoticons and smileys can convey their messages meaningfully .Use of Emoticons gives them a feel of real conversations. It also lightens the mood by enhancing sarcasm and humour. Emotions are thus emerging as a new language being used primarily by the youth.

Diagram 1.12 : Use of Acronyms

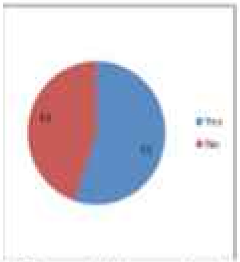


Diagram 1.12 depicts that 51percent of the respondents use slang words or short forms while texting on Social media. The use of acronyms like *TTYL, LOL, OMG* indicate how social media is lessening long and cumbersome phrases. It also communicates the crux of meaning or emotion better than formal language. However, the use of acronyms destroys formal language .The fact that a large section of youth is using slang words denotes a rise in alternate communication genres.

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Diagram 1.13 : Memes as a symbol of expression

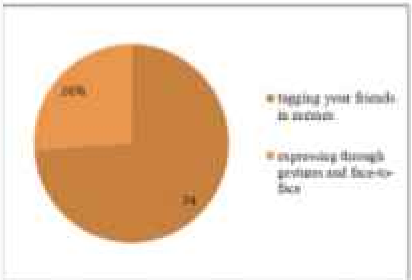


Diagram 1.13 shows that 74percent of the respondents prefer to express themselves by tagging in memes. Tagging in memes is being portrayed as a symbol of true friendship/relationship Memes are altering communication patterns and bringing a cultural evolution.

Diagram 1.14 Imitation of lifestyle patterns of Celebrities

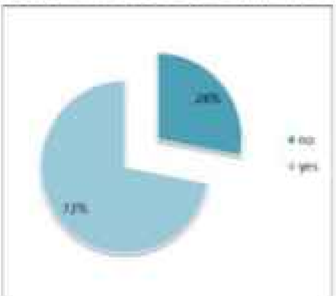


Diagram 1.14 shows that 72percent of the respondents use social media to stalk their favourite celebrities' lifestyle patterns. Majorly used Social media site to stalk is Instagram .People not only stalk their favourite celebrities on Instagram, they also try to transform themselves by imitating their lifestyles and activities. Advent of social media has changed the idea of leisure. Bicycle tours, nature activities, swimming and various outdoor activities which were previously considered leisure are now being replaced by the use of Social networking sites.

Diagram 1.15:The Selfie culture

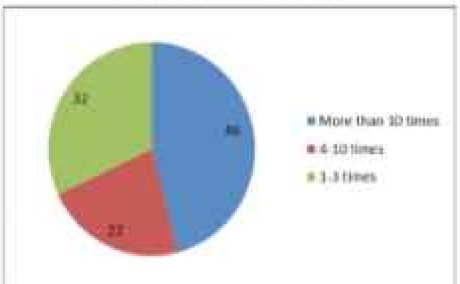
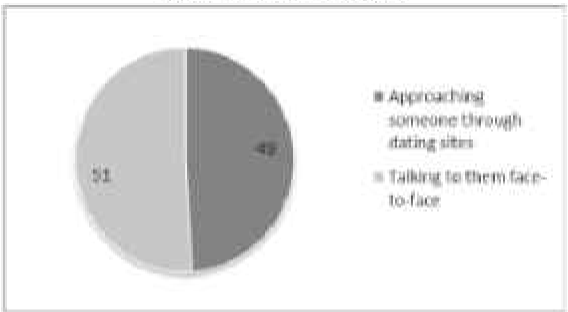


Diagram 1.15 indicates that 32 percent respondents take selfies around 1-3 times a day, 22 percent respondents take selfie 4-10 times a day, while 46percent take selfie more than 10 times a day. Clicking selfies and sharing them on social networking sites like Instagram, Facebook, Tumblr, Snapchat, is indicative of self-expression. Selfies are taken for a wide variety of reasons. According to some, they are taken to celebrate an occasion or a moment or to share an event or achievement; while for others, it is a symbol of narcissism. Selfies have become the new way to document lives.

Diagram 1.16 : Dating Preference



With multiple dating apps and a wide social media platform, meeting new people for striking a romantic connection is becoming both accessible and desirable. Diagram 1.16 shows that 49percent respondents prefer approaching the opposite sex through dating sites such as Tinder etc. Dating has acquired a new dimension as the process is screen based rather than face to face. However, 31percent still prefer face-to-face interactions as they feel that 'in person' relations lead to stronger bonds, build trust and are long lasting.

Diagram 1.17 : Cyber bullying

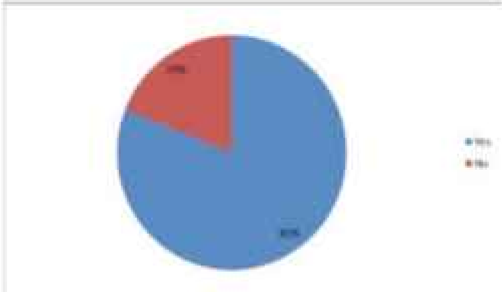


Diagram 1.17 shows that 82 percent respondents intentionally or unintentionally get involved in cyber bullying perpetuated on these sites. This includes posting abusive comments, making fake profiles, hacking accounts and online frauds. The nature of crime is thus changing from *traditional* to *digital*, the youth being both the perpetrator as well as the victim of criminal activities.

Diagram 1.18 : Impact on Social life

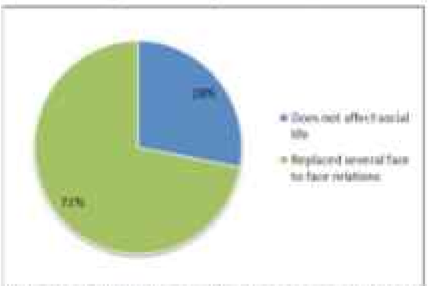


Diagram 1.18 reveals that 72 percent of the respondents feel that Social networking sites such as Facebook, Twitter and Instagram have adversely affected their social life. However, 28percent report otherwise. In fact, they feel that they

are more connected with each other because of Social networking sites. Even though social media platforms such as Facebook, LinkedIn, Twitter etc. provide easy access to information (by the click of a button), digital relations lack the intimacy of the real world. Social media has replaced face-to-face relationships with digital relationships.

Conclusion

Social media is as a web-based technology that promotes and facilitates interaction amongst people through a common network; primarily internet. Since social media has been integrated into the daily lives of the increasing number of people, it has vast impact on the activities, social relationships and worldview of the younger generation. The study conducted on selected youth of Jaipur city reveals that social media is emerging as a major facilitator in building and managing relationships. Social Networking sites like WhatsApp (76percent users) and Instagram (67percent users) are the most popular sites among youth, followed by facebook and twitter with 50percent and 34percent users respectively. The extensive use of social media has a direct impact on interpersonal relationships. The quality of interaction with close groups has deteriorated resulting in poor communication and fragmented relationships. Use of social media is affecting social institutions like marriage, family, polity and education. With the spread of liberal value system, the institutional value of marriage is decreasing giving way to alternate forms of co-habitation. *Anti-Natalist* philosophy is spreading among the youth for whom procreating is now only an option and not a requirement. The social media is being used as a platform for spreading such ideas. Education too has lost its traditional fervour as there is a huge paradigm shift in the world of education. Teaching-Learning is no longer spatially restricted; social media acts as an important source of global knowledge dissemination. Social media is not just a platform to learn but also a platform to voice opinions, raise issues and concerns. It has also redefined political engagement of the youth who have found a stage to display and propagate their political preferences.

Social media has been instrumental in transforming expression and lifestyle patterns. A new social media language is on the rise that includes acronyms, emoticons and memes to express various moods. Even the market society that is the consequence of globalization has gained momentum through social media and has changed the very face and nature of markets. Social media is not just making products available at doorsteps but is also largely influencing the buying choices and buying behaviour of the youth. Besides, sites like Facebook and Instagram allows them to take a sneak peek into the lives and lifestyles of celebrities who become their role models for restyling their taste and restructuring their wardrobes. The most striking outcome of social media is the *Selfie Culture* that has added a new dimension to the cultural dimension. Social media has provided a platform to the youth to present their different versions based on different moods. The hi-tech smart phones and social media together have become a tool for *identity formation* of the youth. It is evident thus, that social media is tremendously instrumental in shaping the values, attitudes and patterns of social behaviour of the youth. The findings of the study are in the consonance with the cultivation theory given by Gerbner (1967) which states that the constant exposure of media affects the people and also alters their perception . Weber (2006) also viewed that rationalization would lead to dehumanized and alienated society where technology will take over the intelligence and emotions of a human being. Social media is turning today's youth into passive recipients of knowledge and information who is mostly unwilling to challenge its content. The humanly created Social media has thus begun to exert dominance over its creator. Social media has been successful in creating a global village in which people of different cultures can connect with each other within seconds. Besides, it has changed people's lifestyle, language, opinions and nature of interpersonal relationships giving rise to new set of values and beliefs. It can be concluded that social media has emerged as a powerful tool of change. The proliferation of social media has revolutionised communication strategies and lifestyle patterns; especially among youth, giving way to new strains of cultural thoughts and practices.

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Edited book

Gibbs, J. T., & Huang, L. N. (Eds.). (2003). *Children of color: Psychological interventions with culturally diverse youth*. San Francisco, CA: Jossey-Bass.

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Economic analysis of Impact of Technological Advancements on Indian Dairy Industry

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Abstract

The Indian dairy industry is one of the largest and fastest growing sectors in India. It contributes significantly to the country's GDP and provides employment to millions of people. The industry has been continuously evolving with technological advancements, which have had a major impact on its economic performance. This article aims to provide an economic analysis of the impact of technological advancements on the Indian dairy industry.

Keywords: Technological advancements, Dairy industry, Economic analysis, Indian economy, Milk production, Supply chain management, Cost-benefit analysis, Productivity, Employment, Infrastructure, Innovation, Market competitiveness, Government policies, Industry trends, Sustainable development, Value addition, Milk processing, Quality assurance, Export potential, Consumer demand

Introduction:

The Indian Dairy Industry has been experiencing significant technological advancements over the past few years. These technological developments have brought in numerous benefits to the industry, including increased efficiency, reduced production costs, improved quality control, and better animal health management.

Technological advancements have enabled the dairy industry to become more efficient and productive. Automation has allowed for faster processing, packaging, and distribution of milk products. Modern milking machines enable farmers to increase their production without having to invest in additional labour or equipment. Computerized systems allow for better management and tracking of milk production, as well as improved quality control measures. Additionally, advanced refrigeration systems have enabled milk products to be stored for longer periods without spoiling, thus increasing their shelf life and reducing wastage.

The adoption of technology has also facilitated the development of e-commerce platforms, enabling dairy farmers to reach out to a broader customer base. The use of online platforms has made it easier for farmers to sell their products directly to consumers, reducing intermediaries' dependence and increasing their profits.

The use of technology has also made it possible to monitor the health and well-being of dairy animals. The use of wearable technology, such as electronic ear tags, allows farmers to monitor the vital signs of their animals, including body temperature and heart rate. This has led to the early detection of health problems and timely treatment, reducing the risk of disease outbreaks and improving animal welfare.

Economic Impact of technological advancements on the Indian dairy industry:

The economic impact of technological advancements on the Indian dairy industry can be seen in terms of increased production and efficiency gains. Automation has led to higher yields per cow as well as lower costs associated with labour and equipment. This has resulted in higher profits for farmers, which in turn has led to increased investment in the sector. Furthermore, improved quality control measures have enabled producers to meet international standards for milk products, thus increasing their export potential and profitability. In addition, increased storage capacity due to advanced refrigeration systems has enabled producers to store large quantities of milk products for extended periods without spoilage or wastage.

The impact of these technological advancements on the Indian dairy industry has been significant.

This growth has had a positive impact on the economy as a whole. The dairy industry is an important source of income for millions of rural households in India. It is estimated that the industry provides direct employment to over 8 million people and indirect employment to another 16 million people.

The growth of the Indian dairy industry has also had a positive impact on the country's trade balance. India is now the world's largest producer of milk, accounting for around 20% of global production. This has helped to reduce the country's dependence on imports of dairy products.

Here are some of the significant changes in the Indian dairy industry due to adoption of technological advancements:

1. **Increased productivity and efficiency**
   One of the most significant impacts of technological advancements on the Indian dairy industry is increased productivity and efficiency. The use of advanced technology in the dairy industry has led to an increase in milk production and processing. Modern technologies such as automated milking systems, advanced cooling systems, and computerized feeding systems have increased the productivity of dairy farms. This increased productivity has enabled dairy farmers to produce more milk at a lower cost, which has resulted in higher profits.
2. **Improved quality of dairy products**
   Another significant impact of technological advancements on the Indian dairy industry is the improvement in the quality of dairy products. Advanced technologies such as ultra-high-temperature (UHT) treatment, membrane filtration, and aseptic packaging have made it possible to produce high-quality dairy products that have a longer shelf life. This has not only increased the profitability of dairy farmers but also improved the availability of high-quality dairy products to consumers.
3. **Reduced wastage and costs**
   The use of technology in the Indian dairy industry has also led to a significant reduction in wastage and costs. Technologies such as automated milking systems, computerized feeding systems, and advanced cooling systems have reduced wastage of feed and water. This reduction in wastage has led to a decrease in the cost of production, resulting in higher profits for dairy farmers.
4. **Enhanced distribution and marketing**
   Technological advancements have also impacted the distribution and marketing of dairy products in India. The use of technology in transportation and logistics has made it possible to transport dairy products quickly and efficiently to different parts of the country. This has improved the availability of dairy products in different parts of the country, which has resulted in increased demand and higher profits for dairy farmers.
5. **Improved Cattle Breeding Techniques**
   The dairy industry relies heavily on the quality of cattle, and breeding better cows has been a top priority for the industry. Technological advancements have made it possible to identify the best genes, traits, and characteristics in cows, and breed them to produce high-quality milk. The use of Artificial Insemination (AI) and embryo transfer technologies has revolutionized cattle breeding, enabling farmers to produce superior breeds of cows that are resistant to diseases, produce more milk, and are better suited to local climatic conditions.
6. **Automation of Dairy Operations**
   Automation of dairy operations has been a game-changer for the Indian dairy industry, improving efficiency, reducing labour costs, and increasing productivity. Technological advancements have made it possible to automate processes such as milking, feeding, and cleaning of cattle, thereby reducing the dependence on manual labour. The use of milking machines has also improved milk quality and reduced the risk of contamination, making it safer for consumption.
7. **Adoption of Precision Farming**
   Precision farming involves the use of technology to manage agricultural practices such as crop rotation, fertilization, and irrigation, to improve productivity and reduce costs. In the dairy industry, precision farming has been used to grow better-quality feed for cattle, resulting in improved milk quality and

increased milk yield. By adopting precision farming techniques, farmers can also reduce water and fertilizer usage, resulting in a more sustainable and eco-friendly dairy industry.

8. **Advanced Milk Processing Techniques**
   Technological advancements have also revolutionized the milk processing industry in India. Advanced milk processing techniques such as ultra-high-temperature (UHT) processing and aseptic packaging have extended the shelf life of milk, making it easier to transport and store. These techniques have also enabled the production of a wider variety of dairy products such as cheese, butter, and yogurt, which have higher market value and are in high demand.
9. **Improved Supply Chain Management**
   Efficient supply chain management is critical to the success of the dairy industry, and technological advancements have made it easier to manage the entire supply chain, from production to distribution. The use of GPS-enabled vehicles, RFID tags, and advanced tracking systems has improved the efficiency of the supply chain, reducing wastage, and ensuring timely delivery of products.
10. **Reduction in post-harvest losses**
    The use of technology has helped reduce post-harvest losses in the Indian dairy industry. Advanced storage and transportation systems have helped prevent spoilage and wastage of milk products, thereby increasing the overall profitability of the industry.

Table 1: Impact of technology adoption on the Indian dairy industry

Technology	Impact on Indian Dairy Industry
Automation	Increased efficiency and cost savings, improved safety, and reduced labour costs
Data Analytics	Improved traceability, better forecasting of demand, better pricing strategies, and more accurate predictions of future trends.
Artificial Intelligence (AI) & Machine Learning (ML)	Automated decision making, improved quality control and risk management, enhanced customer experience.
Blockchain Technology	Improved transparency, traceability & trust in the supply chain; improved data security; faster transactions.

According to a report by the National Dairy Development Board (NDDB), the annual growth rate of milk production in India increased from 2.2% in the pre-Operation Flood period (1961-69) to 4.2% during the Operation Flood period (1970-96), primarily due to the adoption of new technologies.

Table 2: Milk Production in India (million tonnes)

Year	Milk Production
2016	155.5
2017	165.4
2018	176.3
2019	187.7

Source: Ministry of Agriculture and Farmers Welfare, Government of India

According to a report by the National Dairy Development Board (NDDB), the industry has grown at a compound annual growth rate (CAGR) of 6.7% over the past decade. Milk production has increased from 122 million tonnes in 2010-11 to 187.7 million tonnes in 2018-19.

Table 3: Technology Adoption in the Indian Dairy Industry

Technology	Adoption Rate
Artificial insemination	60%
Use of high-yielding breeds	40%
Improved feed and nutrition	50%
Health management practices	70%

Source: National Dairy Development Board (NDDB)

The increased milk production has not only led to higher incomes for farmers but also contributed to the growth of the Indian economy. The dairy industry is a major contributor to the rural economy, providing employment opportunities and generating income for millions of households.

Table 4: Contribution of Dairy Industry to Indian Economy (2018-19)

Parameter	Value (in INR billion)
Gross value of output	9765.13
Net value added	3000.21
Employment (million)	99.03
Milk procurement (million tonnes)	57.72

Source: National Dairy Development Board (NDDB)

Table 5: Comparison of traditional dairy farming and modern dairy farming

Factors	Traditional dairy farming	Modern dairy farming
Housing	Open sheds	Closed sheds
Feeding	Natural grazing	TMR (Total Mixed Ration)
Milking	Hand milking	Machine milking
Breeding	Natural breeding	Artificial insemination
Health management	Home remedies	Veterinary care
Productivity	Low	High
Production cost	High	Low
Quality of products	Low	High

Technological advancements in dairy farming have led to an increase in milk production per cow. In traditional dairy farming, the average milk production per cow is around 2-3 litres per day, while in modern dairy farming, the average milk production per cow is around 8-10 litres per day. The use of TMR (Total Mixed Ration) in modern dairy farming has resulted in improved milk quality and higher milk yields.

Challenges faced by the Indian dairy industry

Despite the significant growth and impact of technological advancements on the Indian dairy industry, there are still challenges that need to be addressed. Some of the significant challenges faced by the Indian dairy industry are:

1. **Low productivity of dairy animals**: According to the NDDB report, the average milk yield per animal in India is around 4.6 litres per day, which is significantly lower than the yields in developed countries.
2. **Lack of access to advanced technologies for small-scale dairy farmers:** Many small-scale dairy farmers in India are unable to afford the high cost of modern technologies, which limits their productivity and profitability.
3. **Lack of proper infrastructure for the transportation and storage of dairy products**: Lack of infrastructure results in significant losses due to spoilage and wastage of dairy products.

To address these challenges, there is a need for continued investment in research and development to develop new breeds of dairy animals that are better adapted to Indian conditions. There is also a need for investment in education and training programs to help farmers adopt modern dairy farming practices.

Conclusion:

It is clear that technological advancements have had a significant impact on the Indian dairy industry's economic performance. Automation has led to higher yields per cow as well as lower costs associated with labour and equipment. Improved quality control measures have also enabled producers to meet international standards for milk products, thus increasing their export potential and profitability. The adoption of modern technology has led to increased efficiency, reduced production costs, improved quality control, and better animal health management. The use of technology has also facilitated the development of e-commerce platforms and enabled the establishment of a traceability system for milk and milk products. Finally, advanced refrigeration systems have enabled producers to store large quantities of milk products for extended periods without spoilage or wastage. All these factors have contributed towards making the Indian dairy industry one of the most profitable sectors in India today.

It is important to note that the impact of technology adoption on profitability can vary depending on the individual farm's circumstances and management practices. Additionally, while technology adoption can improve profitability, it can also involve significant upfront costs and ongoing maintenance expenses. However, the industry still faces several challenges, including the lack of access to advanced technologies and inadequate infrastructure.

To fully realize the benefits of technological advancements, policymakers and industry stakeholders must work together to address these challenges and create a more favourable environment for the growth and development of the Indian dairy industry. As the Indian Dairy Industry continues to grow, it is essential to embrace technological advancements to ensure sustained growth and development. Overall, adopting technology in dairy farming can lead to significant cost savings and revenue increases, which can result in higher profitability for farmers.

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Inspira-Journal of Commerce, Economics & Computer Science (JCECS)
ISSN : 2395-7069 General Impact Factor : 2.4668, Volume 04, No. 01, January-March., 2018, pp. 25-30

THE MARCH TOWARDS A CASHLESS ECONOMY: AN ASSESSMENT

Dr. Jitendra Singh Bidawat*

ABSTRACT

Cash resembles water a fundamental need without which survival is a test. By the by, cash utilize doesn't appear to wind down all that much, with around 85% of worldwide payments still made utilizing cash. One of the principle reasons is that there is nothing to really rival the adaptability of notes and coins. The computerized period is a comment, and new techniques for payments will keep on being presented. Be that as it may, Indians need to observe the dangers and advantages of various payment instruments, the dangers related with electronic payment instruments are significantly more assorted and extreme. The capacity of Indian monetary foundations to secure the electronic money came into question additionally a critical motivation behind why individuals support money.

KEYWORDS: *Cashless Economy, Global Payments, Payment Instruments, Hackers & Financial Institutions.*

Introduction

A Cashless Economy is an economy in which an extensive variety of trades are assisted through electronic suggests. It consolidates e-saving money (Mobile dealing with a record or saving money through PCs), charge and Visas, card-swipe or reason for bargains (POS) machines and propelled wallets. The paper under scrutiny tries to hurl light on the rising example of electronic trades in India being finished in various cashless modes over the span of the latest couple of years yet in the meantime acting normally making alert of the negative impact of going cashless thus demonstrating downside of cutting edge India. As the all inclusive community of India are exhibiting dumbfounding response towards move of digitalization, it is the gigantic marker of prosperous future for India to be cashless India. So the need of a hour is to distinguish the weaknesses related with cashless trades and work out on them to achieve the vision of Prime Minister Modi's Digital India.

Objective of Study

The objectives of study were based on:

- To understand the concept of Cashless Economy.
- To study the current position of Cashless India
- To suggest the future prospects of Cashless India

Research Methodology

The readied paper is a descriptive study in nature. The study has been completed in view of the accumulation of the relevant secondary information. Secondary information accumulation depended on different sources, for example, published books, articles published in different journals & newspapers, periodicals, conference paper, working paper and websites, etc.

What is a Cashless Economy?

Cashless economy or cashless means every one of the exchanges completed between two people will happen by payment through payment entryways or through the plastic cash. It is finished with the essential point of revealing the non-enrolled exchanges. The Indian government with another mean to advance the economy through non-money exchanges has presented mediums, for example, Banking cards, USSD, AEPS, UPI, Mobile Wallets, Banks Pre-Paid Cards, Point of Sale, Internet Banking, Mobile Banking, Micro ATM's.

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History of Cashless Economy

During the 1990's, the developing prevalence of electronic managing an account influenced the utilization of non-to money exchanges and settlements well known among the people of probably the most technologically advanced countries of the world. Computerized payment techniques turned out to be settled in nations over the world by the 2010's. Online apparatuses like PayPal, NFC payment by advanced mobile phone or electronic cards, computerized wallet frameworks worked by Apple, electronic saving money and bill payment frameworks helped individuals make cashless exchanges on the web. A few nations even began as far as possible on exchange esteems that can be utilized for non-electronic payments to support cashless exchanges.

Global Scenario

The economic transactions in India almost 98 per cent are put through cash. Total cash transactions will not be eliminated in cashless economy. It means most of the transactions are performed cashless. On this background it is interesting to know the world scenario on this score. The following table shows the top ten countries where cashless economy is practiced.

Top Cashless Countries

Countries	Cashless Transactions
1-Singapore	61%
2-Netherlands	60%
3-France	59%
4-Sweden	59%
5-Canada	57%
6-Belgium	56%
7-United Kingdom	52%
8-USA	45%
9-Australia	35%
10-Germany	33%
11-South Korea	29%
12-Spain	16%
13-Brazil	15%
14-Japan	14%
15-China	10%
India	2%

Source: Master card Advisor's Measuring progress toward a cashless society

This demonstrates the developed nations are on the edge of getting cashless and this isn't being accomplished overnight yet by influencing their economies to all around prepare to go cashless. the general population having platinum cards shift roughly between half to 90% of the population however their non trade spending lies out the window of 80-95% among these nations which demonstrates that not just card installments assume part in making economy cashless yet in addition the utilization of advanced gadgets similarly assume a critical part. So the innovation is itself an essential requirement for going cashless.

Cashless Transactions in India

Demonetization was a push for a cashless economy; it has been working gradually. As indicated by Reserve Bank of India the use of wallets, non-UPI managing an account applications and Aadhaar-empowered payment has been ease back to get on, while that of platinum cards has fallen. The UPI payments have been developing, and a noteworthy lump of them are portable based. By and large, electronic payments remained at Rs 200 trillion in August-an expansion of 5 for each penny over August, 2016 however 0.7 for every penny lower than at the pinnacle of demonetization in December a year ago (Rs. 201 trillion).

A few classes of computerized payment have in truth fallen beneath their pre-demonetization levels. Versatile managing an account saw the most honed fall of 30 for each penny since August a year ago, and 46 for every penny since the demonetization-time frame high of Rs. 1.5 trillion. Plastic payment additionally fell by 2.2 for every penny to Rs. 2,706 billion this August from Rs. 2,767 billion in October, 2016. This was regardless of a 4 for each penny increment in the quantity of platinum card exchanges. Individuals are swiping their cards all the more regularly for littler sums at ATMs as approximately 10 for every penny less trade is out dissemination contrasted and the pre-demonetization period.

Feeling
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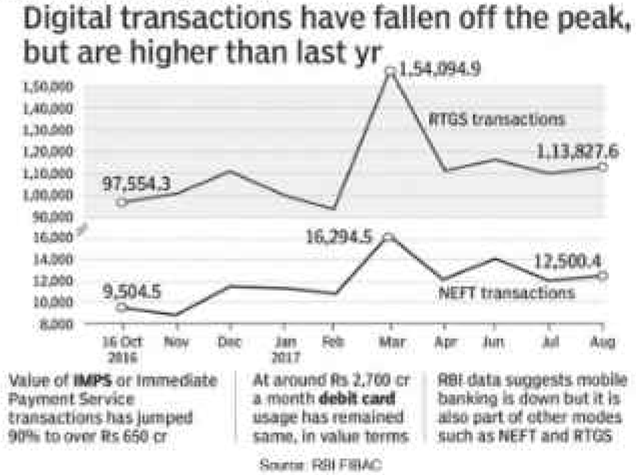
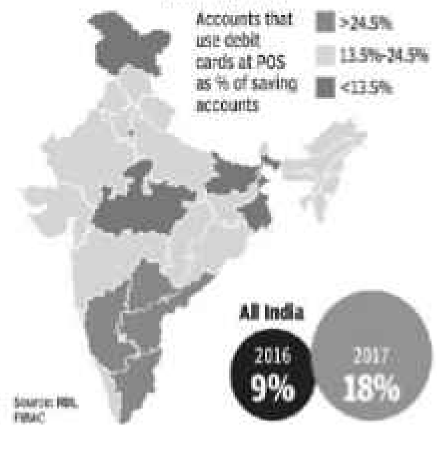
The most touted advantage of demonetization was the expansion in portable managing an account and wallets. Be that as it may, as of August, 2017, portable keeping money frames just 0.33 for every penny (Rs. 799.13 billion) of aggregate online payment. Versatile wallets, including Paytm, Mobikwik and those from banks, frame just 0.051 for each penny (Rs. 102.88 billion) of the aggregate. Their offer of the computerized pie is practically unaltered since August 2016. Portable saving money ascended from 0.37 for every penny of e-payment in August to 0.71 for each penny in November 2016 preceding falling back to 0.33 for each penny.





Digital adoption has grown but with significant regional disparities

STATE/UT	2016	2017	Change	STATE/UT	2016	2017	Change
D&N Haveli	9%	40%	31%	Maharashtra	5%	21%	16%
Daman & Diu	10%	35%	25%	Goa	6%	21%	15%
Telangana	9%	32%	23%	Meghalaya	5%	19%	14%
Chandigarh	8%	31%	23%	Himachal	4%	18%	14%
Puducherry	8%	31%	23%	Tripura	3%	16%	13%
Andhra	4%	26%	22%	Jharkhand	5%	17%	12%
Karnataka	6%	26%	20%	Nagaland	5%	17%	12%
Delhi	9%	28%	19%	Assam	3%	15%	12%
Manipur	2%	20%	18%	Rajasthan	3%	15%	12%
A&N Islands	6%	24%	18%	Chhattisgarh	3%	14%	11%
Tamil Nadu	7%	25%	18%	Mizoram	6%	17%	11%
Gujarat	5%	22%	17%	Odisha	4%	15%	11%
Haryana	4%	20%	16%	UP	3%	13%	10%
Punjab	2%	18%	16%	Lakshadweep	9%	18%	9%
Sikkim	6%	22%	16%	MP	2%	11%	9%
Uttarakhand	4%	20%	16%	West Bengal	3%	12%	9%
Arunachal	5%	21%	16%	Bihar	2%	9%	7%

Initiative Taken by Indian Government to Promote Cashless Transactions

- **No cess on cashless payment less than Rs. 2,000:** No service tax will be charged on digital transaction charges/MDR for transactions upto Rs 2000.
- **POS machines in villages:** To grow computerized instalment framework in country regions, the Government through NABARD will stretch out monetary help to qualified banks for sending of 2 POS gadgets each in 1 lakh towns with populace of under 10,000. These POS machines are proposed to be conveyed at essential agreeable social orders/drain social orders/farming information merchants to encourage agri-related exchanges through computerized implies. This will profit ranchers of one lakh town covering an aggregate population of almost 75 crores who will have office to execute cashless in their towns for their agricultural needs.
- **Buy railway tickets online:** Railway through its sub urban railway network is giving impetus by method for markdown upto 0.5 percent to clients for month to month or occasional tickets from January 1, 2017, if payment is made through computerized implies. Almost 80 lakh travellers utilize occasional or month to month ticket on rural railways, to a great scope in real money, payments worth about Rs 2,000 crore for each year.
- **Rupay Kisan Cards for farmers:** The Government through NABARD will likewise encourage Rural Regional Banks and Cooperative Banks to issue "Rupay Kisan Cards" to 4.32 crore Kisan Credit Card holders to empower them to make computerized exchanges at POS machines/Micro ATMs/ATMs.
- **0.75 % discount on fuel:** The Government Petroleum PSUs might give motivating force by offering a rebate at the rate of 0.75 percent of the purchase to customers on buy of oil or diesel if payment is made through advanced means.
- **No transaction fee on digital payments:** Government offices and PSUs will guarantee that exchanges expense/MDR accuses related of payment through advanced means might not be passed on to the purchasers and every single such cost should be borne by them. State Governments are being prompted that the State Governments and its associations ought to likewise consider engrossing the exchange expense/MDR charges identified with computerized payment to them and shopper ought not to be requested to shoulder it.
- **Free accidental insurance:** All railway passengers buying online ticket shall be given free accidental insurance cover of upto Rs 10 lakh. Nearly 14 lakh railway passengers are buying tickets everyday out of which 58% tickets are bought online through digital means.
- **Benefits for merchants, traders:** Public sector banks are exhorted that dealer ought not be required to pay more than Rs 100 every month as month to month rental for PoS terminals/Micro ATMs/versatile POS from the traders to expedite little vendor board the computerized payments

eco framework. Almost 6.5 lakh machines by Public Sector Banks have been issued to shippers will's identity profited by the lower rentals and advance computerized exchanges.

- **Incentives for railway passengers:** For paid services e.g. catering, accommodation, retiring rooms etc. being offered by railways through its affiliated entities/corporations to the passengers, it will provide a discount of 5 per cent for payment of these services through digital means. All the passengers travelling on railways availing these services may avail the benefit.

Challenges in Establishing Cashless Economy

- **Risks associated with mobile Banking**
  - **Mobile managing an account application being mapped to a wrong mobile number:** For bank clients who don't utilize mobile banking, a representative of the bank could join a partner's mobile number to the ledger and introduce a mobile application on his cell phone. The client's record is traded off by the partner and he or she doesn't get any notice about the same.
  - **Creating fake and non-existent clients on the mobile financial related administrations stage:** Most of the banks appoint a third party vendor to develop a mobile application to be integrated with their core banking system. The merchant may make two unapproved clients with rights to start and check exchanges, and exchange stores from the association to his partners' wallets, adequately taking cash from the bank.
  - **Malware:** The expansion in the quantity of mobile banking clients is accompanied by a rise in attacks through malware.
  - **Data theft:** Mass attacks are possible through the theft of credentials which can be used for personal benefits.
  - **SIM Swap:** SIM swap implies supplanting the old SIM with another one, when the old gets lost or harmed, or when one needs a contrastingly measured SIM card. On the off chance that a fraudster oversees such a swap, he can complete various deceitful exchanges utilizing the portable number of the casualty. For example, the legitimate versatile station worldwide supporter index number (MSISDN) is moved to another handset. The client has no entrance to their record and gets no warning. The client with the other handset, on knowing the PIN, can execute in the record.
  - **Fake or comparable interface applications:** Fake applications, with the very same UI as the first application, are being made to take classified data shared by the client.
- **Risks Associated with Mobile Wallets**
  - **Expanded danger of illegal tax avoidance:** Transfer of cash into and out of a portable wallet from or to a bank account is currently possible. Trade out from the bank account of an individual and money out to an alternate account balance of another individual can be utilized as a stage for laundering unaccounted cash.
  - **Unapproved deductions from the wallet of a client:** Employees of the mobile wallet service provider may abuse the adjust put away in the wallet of a client by making unapproved derivations. In addition, if there should arise an occurrence of a mis-happening to a client with no selection office, the adjust in the client's record isn't passed on to his relatives and stays with the service provider, which at last turns into a low-hanging natural product for the fraudsters.
  - **Inability to direct appropriate due steadfastness of traders:** If the shipper on-boarded by the specialist co-op is a fraudster, and the payment is made by the client for invented products or administrations from the dealer, money can be pivoted with least exchange charges.
  - **No auto log off office:** An individual more often than not opens the application on his cell phone for benefiting of the administrations and shuts the application, rather than logging out. On the off chance that the cell phone is stolen or lost and a fraudster opens the application, he can abuse the rest of the adjusted in the service provider wallet.

Future Prospects of Cashless Payments in India

Smooth, basic and secure payment procedures will realize behavioral changes and quicker appropriation of computerized payments and saving money among un-managed an account sections. At the point when new players enter the market, each with a marginally extraordinary interpretation of the market and with varying plans of action, the expanded rivalry will help the earth and offer more choices for shoppers to browse. A bigger pie with more players is unquestionably useful for the changing elements of the payments business, which is as yet early in India. Indian utilization is as yet overwhelmed with money, with cards contributing just 5 percent of the individual utilization consumption. In created nations, 30-50 percent of spends occur through cards. So there is enormous development opportunity. The fast development of advanced mobile phones, internet entrance and web based business is supplementing these; card payment volumes have been developing in overabundance of 25 percent y-o-y. We anticipate that this pattern will proceed, supported by the proceeded with increment in charge card actuation and utilization; plastic exchanges have been developing at 31 for every penny every year.

Extraordinary rivalry and key joint effort among existing and new market members like the payments and little banks and wallets will help scale up acknowledgment and encourage greater inventiveness, advancement and shopper decision. As indicated by him, the future holds energizing circumstances for the payments business in India, as all partners and administrative specialists meet up to accomplish a "less-money subordinate" and in the end "cashless" society. The Visa business in India sees more noteworthy acknowledgment among purchasers this year. As indicated by World line India Card Payment Report 2014-15, the Visa base developed at 9.8 for each penny in the previous year. World line India is a pioneer in the payment and exchanges benefits in the nation. Elective techniques like portable wallets and prepaid money cards represented 3 for every penny of computerized exchanges. This industry has been becoming consistently finished the previous couple of years. Card exchanges, both by charge and Visas, are on an upward direction. There is fascinating progression influencing everything in the Indian payments industry.

Conclusion

The Government needs to make the vital strides and make some arrangement contemplations when they are planning for a cashless economy. The payments frameworks must be shielded from the digital assaults which are the real danger for cashless exchanges. Likewise, the legislature ought to have the capacity to serve the under managed an account also. Everybody from the general public ought to approach an electronic framework that they can use for such exchanges. Government should take measures to expand liquidity into the framework with the goal that individuals confront less bother. Government ought to likewise endeavour to enhance general framework with the goal that an ever increasing number of individuals can come into saving money net and web. Society has additionally to have its impact. They need to comprehend the significance of cashless economy and acknowledge measures taken by the legislature. As a conclusion, one might say that going cashless gives significantly a greater number of advantages than only accommodation to individuals, organizations and the administration specifically.

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International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 8 Issue 11, November- 2018
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

A PRAGMATIC IMPACT ANALYSIS OF UNIVERSITY GRANTS COMMISSION (UGC) IN DEVELOPMENT OF HIGHER EDUCATION SCENERIO IN INDIA

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Abstract

Indian Higher Education system is renowned for its academic expertise since ancient history, the likes of Nalanda and Taxila signify India's academic reputation, which attracted a wide range of students across the globe. The roots of current Indian Higher Education System goes back to British regime, which sown its seeds through various committees. The Paper inclusively discusses the Hierarchy of UGC formation, and its attempts to improve the quality of Indian higher education through various regulations. The paper put its light on the most recent draft regulations, and stem initiatives by UGC - approving a list of referred journals and anti plagiarism draft regulation, so as to strengthen the research regime of India. The paper extends its discussion on various committees which were critical of UGC, and recommends to establish a single regulator, in place of multiple regulators. World university rankings reports of QS and The Times Higher Education were cited, to signify the under performance of Indian universities/institutions at global level. The paper also discusses the low S&T publications output of India, in comparison to other countries. HEERA as a latest administrative reform was also discussed, by focusing on the substantive reasons for its establishment. Finally, the paper recommends a set of policies, driven by the principle motivation of educational inclusivity, which may mainstream the dynamic intellect, leading to strengthening of the Indian Higher Education regime.

Keywords: UGC, Times Higher education, HEERA

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 8 Issue 11, November- 2018
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

Introduction

Hierarchy of UGC formation

Indian Higher Education system is renowned for its academic expertise since ancient history, when we delve upon the academic antiquities, it reminds us the same. The likes of Nalanda, Taxila and other ancient Indian universities, which were hailed as higher educational institutions of unequivocal academic repute, and are the converging points for diverse students coming from different parts of the globe, particularly from South East Asian countries viz… Thailand, Malaysia, Indonesia and others. The roots of current Higher Education system in India can be traced way back to British Indian regime. Various committees, which recommend guidelines for Indian education system progressively culminated to the formation of an Institutionalized system, for promotion of Higher Education in India, in the form of UGC. For conduciveness, we shall discuss by beginning with the recommendations of Mountstuart Elphinstone of 1823, which laid emphasis on teaching European sciences and English in Indian schools, as a further follow up Lord Macaulay, in 1835 recommends for the establishment of strong English Education system in British India. Major push for Indian higher education comes through the recommendations of Sir Charles Wood's Dispatch, popularly known as Magna Carta of English Education in India of 1854, gesticulating the need for a well defined education system in India, from school to university system with teaching in vernacular language, as crux point for learning, it brings a coherent policy for Indian educational regime, which culminates to the formation of trio universities in 1857 at Calcutta, Bombay and Madras. Later in 1925, The Inter University Board was formed with the intent of cooperation amongst universities in the spheres of educational, cultural and allied spheres. The first ever national educational policy was formulated, based on the recommendations of Sargeant report – Central Advisory Board of Education on post war Educational development, established in 1944, leading to the foundation of University Grants Committee in 1945, to monitor the functionary of 3 central universities of Delhi, Aligarh and Banaras, later in 1947 supervisory role further extends to all the universities of the time[1].

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 8 Issue 11, November- 2018
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

Immediately after attaining Independence, significant importance has been given to Indian higher education system, which took the expression of forming University Education Commission, chaired by Dr.S.Radhakrishnan in 1948, to recommend, how best the Indian University regime be improved. The committee recommends for restructuring of University Grants Committee on par with UK's University Grants Commission, manned by a regular chairman and other board members of sound educational repute. The Central Government of India in 1952 entrusted UGC, with the power of grants in aid from public fund, to be disbursed to various universities of the country. The then education minister, late Maulana Abdul Kalam Azad formally kick-started the UGC in 1953, as a non statutory organization, later the central government enacted UGC act, 1956 to sanction statutory status to UGC[2].

Powers of UGC: UGC entrusted with the Powers of promotion, coordination, formulation, determination and maintenance of Indian Universities Education Standards.

UGC decentralized its officiating duties, for holistic coverage through 6 regional bodies – Hyderabad, Bengalore, Pune, Kolkata, Bhopal and Gowhati. Apart from New Delhi's UGC Main office, it also has 2 more additional offices at University of Delhi – South campus, and 35, Feroz shah Road, New Delhi for effective coordination of Indian universities.

Schematic Representation of time line for UGC formation

Mountstuart Elphinstone's report (1823) →Lord Macaulay's
report (1835) →Wood's Dispatch (1854) → Inter University Board (1925) →Sargeant Report (1944) →University Grants Committee (1945) → University Education Commission (1948) → University Grants Commission – Non Statutory (1953) → University Grants Commission – Statutory (1956)

Initiatives of UGC to improve the quality of Higher Education in India

UGC from time to time, took number of initiatives in the form of regulations and guidelines, to improve the quality of universities/institutions in India. Currently the total quantitative strength of Indian universities regime amounts to 794, upon which the UGC extends its jurisdiction, embodying 362 state universities, 263 private universities, 122 deemed universities and 47

International Journal of Research in Economics and Social Sciences(IJRESS)
Available online at: http://euroasiapub.org
Vol. 8 Issue 11, November- 2018
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

central universities. UGC, to enhance the academic competitiveness amongst the colleges started a special programme - College with potential for excellence (CPA), under which currently 314 colleges has been earmarked. We shall discuss important regulations of UGC, which were aimed to strengthen the quality of universities in India. Previous UGC regulations which were calibrated to enhance the quality of Indian universities are [UGC – Inspection of Universities Rules, 1960], [Recognition of college in terms of Regulations, 1974 – Framed under the UGC act], [UGC – Establishment and Maintenance of Institutions Regulations – 1985], [UGC – Regulations, 1985 regarding the Minimum standards of Instruction for the grant of the First Degree] and [UGC – Regulations, 1991 regarding Minimum qualifications for Appointment of teachers in Universities and Colleges][3,4,5,6,7].

Current UGC regulation aimed to improve the quality of research degrees [M.Phil/Ph.D] is UGC (Minimum Standards and Procedure for Awards of M.Phil/Ph.D degree), Regulation, 2009. The core provisions of the regulation are

1. To conduct research entrance test by individual university/institution, to admit students into M.Phil and Ph.D programmes.
2. It is an obligation for a Ph.D student to publish one research manuscript in indexed journal, Prior to his/her thesis submission for evaluation.
3. It is the duty of University/Institution, to submit the soft copy of (M.Phil/Ph.D) to UGC – INFLIBNET, for the benefit of different Universities/Institutions to equip with the recent findings 8.

UGC, in order to extract the best out of teaching regime has formulated a regulation, UGC – Minimum qualifications required for the appointment and career advancement of teachers in Universities and Institutions affiliated to it [3rd Amendment], Regulation, 2009, the crux point of the said regulation is aspirants must clear the NET/SLET exam to get appointment as lecturers into Universities/Institutions [8].

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Vol. 8 Issue 11, November- 2018
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

Of late, UGC has formulated a new draft regulation which has been opened for public feedback. The author opined that the said regulation was drafted in the light of global developments, particularly Indian universities poor performance in QS and Times Higher Education's World University rankings report.

UGC – Categorization of Universities for the grant of graded autonomy, Regulations, 2017. The said regulation for categorization of universities is based on the parameters of NAAC score/ NIRF ranking.

Important provisions of the regulations were [9].

1. **Category I Universities:** Universities excelled in NAAC score with accreditation of more than 3.5 score.

(or)

Universities excelled in NIRF's top 50 ranks for two years in line.

2. **Category II Universities:** Universities excelled in NAAC score with accreditation between 3.01 – 3.49 score.

(or)

Universities excelled in NIRF ranking between 51-100 for two years in line.

3. **Category III Universities:**Universities with NAAC score of below 3.0

(or)

NIRF ranking of above 100

The author opined that, the said regulation may enhance the competitiveness amongst the Indian universities and Institutions and adapt as per the global advancements, so as to mainstream Indian universities, and link up the gap between developed and developing academic world.

UGC's another recent draft regulation, which intends to increment the quality of Indian research regime is UGC (Minimum standards and Procedure for Awards of M.Phil/Ph.D degree) – 1st Amendment Regulations, 2017, the central theme of the regulation is Ph.D aspiring candidates, who wants to get admission into category III universities must clear NET/SET exam, the said provision in the draft regulation is to enhance the research quality of underperforming

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Vol. 8 Issue 11, November- 2018
ISSN(o): 2249-7382 | Impact Factor: 6.939 |

Universities/Institutions, increase the competitiveness and bring them into mainstream developmental track[9]. It may appear at the moment that getting Ph.D admission is some what difficult, for one has to clear NET/SET exam to enter into category III universities, under which majority of Indian universities comes in[10].UGC of late, took a sweeping reform in the form of changing the criteria to clear UGC – NET exam, by determining top 6% of appearing candidates be declared as qualified the exam [11].

UGC's stern initiatives to improve the higher education system in India

Referred journals list: In an unprecedented way, UGC has approved a list of journals belonging to different themes as referred, most of the academicians welcomed the calibrated initiative of UGC, as it consolidates the intactness of Indian Higher educational universities/institutions. As of now, there were 47016 journals considered as UGC referred list, of which Science journals amounts to 32028, Social science journals – 10242, Arts and Humanities – 3604 and Multidisciplinary – 1142. The nature of UGC referred journals list is dynamic, and the sources of the journals were 1. Scopus 2. Web of Science 3. ICI – Indian Citation Index 4. Standing committee recommended journals and 5. Universities recommended journals[24].

UGC's anti plagiarism draft regulation: UGC, in a stern and studious way formulated a draft regulation, to dissuade academic unethical practices – Plagiarism. The Proposed anti plagiarism draft regulation, [UGC – Promotion of Academic integrity and Prevention of Plagiarism in Higher Education Institutions, Regulations – 2017] shall impose penalties on academicians, (students and faculty) based on their extent of academic misconduct, accordingly 3 levels of plagiarism (non core) has been categorized based on the extent of matching. Level 1 plagiarism - >10% - 40%, Level 2 plagiarism - > 40% - 60% and Level 3 plagiarism - > 60%. The AMP – Academic Misconduct Panel shall be constituted by concerned HEI, (Higher Education Institution) to investigate the allegation and their recommendations be submitted to the PDA - Plagiarism Disciplinary Authority, which shall decide the matter. If a student commits a level 3 plagiarism, his/her registration may get cancelled. In case of faculty, committing level 3 plagiarism, he/she shall be withhold from publishing their work and shall not be entitled to

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yearly increments. The concerned HEI, must install anti plagiarism software for the benefit of students and faculty, and have to conduct awareness programmes on ethical academic practices[25].

Various Committees recommendations, a set back to UGC:

High level empowerment committees are a backbone to Indian administration, since Indian independence it has served for a wide range of issues. Various committees has been formed from time to time to restructure UGC as per global developments, all such committees were critical of UGC functionary. The author extends the discussion in the light of recent recommendations of T.S.R.Subramanian and Hari Gautam committees. T.S.R.Subramanian, a former cabinet secretary to Ministry of HRD, entrusted to formulate a new national educational policy, it recommends terminating the UGC act, as the UGC found to be ineffective and incapable to enforce its regulations, leading to undermining the quality of Indian higher education system, it also recommends lowering down the role of UGC. The need for such an overhaul recommendation is owing to misappropriations in grants and weak manpower of UGC[12]. Similarly Hari Gautam, a former UGC board member, chaired a committee to assess the functional efficacy of UGC. The committee recommendations were critical about UGC functionary, which even suggested to scrapping down the UGC and supersede by National Higher Education Authority. It recommends that reconstitution of UGC will be unproductive, as UGC found to be ineffective in implementing its mandate, and further recommends to establish National Research Aptitude test for Ph.D entry[13].

In the face of all these recommendations, there is a widespread public debate regarding the role of UGC, as Indian Higher Education promoter.

Indian Universities / Institutions Poor show at Top 200 World University Rankings

Nonetheless, the Massive size of Indian Universities/Institutions, Indian institutes performed below par at QS (Quacquarelli Symonds) and Times Higher Education's top world university rankings. QS and Times Higher Education used to publish top universities rankings of the globe annually. Beginning with 2011-12 QS world university rankings, none of the Indian

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universities/institutes bagged position in top 200 elite club of universities, where in MIT (Massachusetts Institute of Technology) topped the rankings[14]. The same dismal scenario is repeated in 2014-15 Times Higher Education's list of world universities rankings, with no Indian university/Institute occupying the rankings in top 200 slots, where as Singapore's National university of Singapore bagged position in top 25 world universities, with California Institute of technology topped the rankings[15]. In 2015-16 QS world universities rankings, IISc, Bengalore - 147 and IIT, Delhi – 170 bagged positions in top 200 rankings restricting the number of Indian universities to just 2, with MIT topped the table[16], but in Times Higher Education World universities rankings of 2015-16, none of the Indian universities/institutes occupied the position in top 200 slots, with IISc, Bengalore just making to 251-300 grouping, where as Chinese universities dominates the slots and California institute of technology topped the list[17]. Recently released 2017 QS world universities rankings display a slight improvement, but still below par status with no Indian university/institute ranked in top 100 and just restricting to IIT, Delhi -172, IIT, Bombay – 179 and IISc – 190.

The parameters used by QS and Times Higher Education were (i) Academic reputation of the institute/university (ii) Ratio of faculty – student (iii) Faculty citations (iv) Reputation of the employer (v) International students and faculty[18]. Based on this, we have to infer that Indian universities/institutions have to fine tune their academic regime vis-a-vis to global developments to enhance its academic reputation.

India's low output of S & T Publications

Not only in terms of world university rankings, India also underperformed in science and technology publications output when compared to countries like China, South Korea and others. Gupta et al. (2013) assessed world S&T publications output based on Scopus International Multidisciplinary database during the period 1996-2011 and they suggests that India is on back foot in varied entities of S&T as follows[19].

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1. India's global share of publications output is just 2.46%, which is far behind the U.S - 23.86%,China - 8.73%, U.K - 6.64%, Japan - 6.22% & Germany - 6.14% during the assessment period of 1996-2011.
2. Total S&T publication size of India is 634472, when compared to China's 2248278, South Korea - 497681, Brazil - 391589 & Taiwan – 351610 during 1996-2011.
3. India's h – index stood at 281 during the assessment period of 1996-2011, which is lesser than China's 353, South Korea – 309, Brazil – 285 & Taiwan – 249.
4. India's average citations per publication stood at 5.24, which is lower than China's 8.04, South Korea – 8.01 and Brazil – 7.37.
5. India relatively performed well in year wise rate of S&T publications during the assessment period of 1996-2011 with 10.42%, but still lesser than China's 19.65%, South Korea – 13.15%, Turkey – 12.74% & Brazil – 12.66%, where in Taiwan achieved a growth rate of 9.69%, which is close to India.

The overall data depicts the point that, India has to introspect deeply regarding the current status of Research regime and frame holistic policies to match with the global standards.

HEERA – Higher Education Empowerment Regulation Agency

T.S.R.Subramanian committee and Hari Gautam committee of the current NDA government, and Yashpal committee and National Knowledge commission of the UPA government, all recommends a coherent suggestion of establishing a single regulator in place of multiple regulators. This radical leap has been taken after Indian Prime Minister Narendra Modi's decision, who chairs the education committee in March 2017. The Proposed body tentatively named as HEERA - Higher Education Empowerment Regulation Agency. A Committee embodying Niti Aayog CEO Amitab Kant, Higher Education secretary K.K Sharma and others were swiftly formulating a blueprint for HEERA legislation, as it requires amendments to existing rules to supersede the UGC and AICTE. The need for a single regulator in place of multiple regulators was a long standing demand, which was emanated from the grounds that multiple regulators leads to restrictive regulatory regime that affects the integrity of institutional

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autonomy, rampant corruption and misappropriations in terms of granting, ambiguous provisions and overlapping provisional jurisdiction. Therefore, in the wake of underperformance of Higher Educational institutions of India vis-à-vis to publications output, poor show at world university rankings and various committees advocating single regulatory regime; HEERA has been proposed, on the lines of simple, clean and short administrative hierarchy, respecting the institutional autonomy as the crux point of the HEERA[20,21,22,23].

Conclusion

Author would conclude that, keeping in mind the historical background of India, in the form of bloody partition in 1947, drain of wealth from India by British which ruled us for over 200 years, different wars waged by India, 1947 - India and Pakistan (Jammu and Kashmir war), 1962 - India and China, 1965 – India and Pakistan, 1971 – India and Pakistan (Bangladesh liberation war), 1999- India and Pakistan (Kargil war), higher poverty rate and poor infrastructure, which all compels Indian government to invest higher budget in these sectors, which may otherwise divert some budget in Research and Development. By considering all these issues, Indian universities/Institutes under UGC, performed well within its available resources and UGC did tried to improve the quality of Indian higher education system by its regulations, but the matter of concerned is its holistic and integrated implementation. India has to frame holistic and educationally inclusive policies, which may bring the dynamic intellect into the mainstream academic regime which may further our academic reputation, on this line, the author recommends a set of policies as follows

1. Strengthen the chain of government school and university system.
2. Performance based incentives for State universities, which occupies the higher share in the list of Indian universities.
3. Collaborations between Central and State universities through faculty and student exchange programme.

Finally Injecting new blood in the form of HEERA is a welcoming decision, but it should not be implemented in a hasty manner, it has to be framed on the lines of educational inclusivity

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coupled with simple administration which leads to acting as an effective higher education promoter of India.

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