

A person in a dark suit is shown from the chest up, holding a tablet. The background is a blurred office interior with large windows. Overlaid on the image are several digital icons: a person silhouette, a checklist, a bar chart, a gear, a shield with a checkmark, and a circular gauge with a checkmark. A glowing blue data stream is visible near the tablet.

REVISITING MANAGEMENT AND BUSINESS PRACTICES IN DYNAMIC ERA

Editors

Prof. (Dr.) Monika Kulshreshtha

Prof. (Dr.) Renu Sharma

Dr. Priyanka Indoria

Dr. Mansi

Ms. Neha Gupta

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Revisiting Management and Business Practices in Dynamic Era

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First Published 2023

ISBN: 978-93-95651-60-8

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Foreword

It is with great pleasure and excitement that we are introducing “*Revisiting Management and Business Practices in Dynamic Era*,” a remarkable compilation of papers presented at the esteemed International Conference held on 26th & 27th May 2023. Our main aim has been to provide a forum for discussion, to facilitate integration in various fields of management, and to bring together researchers, scholars, and students from diverse fields of research and development.

The conference was held over the course of two days in New Delhi, India. The conference had over 35 presentations including both national and international presenters and speakers whose intellect and work reflect profound knowledge and ardent passion to integrate theory with practical world. The global business ecosystem today is an amalgam of challenges and opportunities comprising of technological advancement, evolving consumer behaviors and uncertain market forces. It is in this backdrop that the international conference emerged as a beacon of intellect, innovation and growth providing a platform to the academics and researchers to reflect and ruminate upon the complexities of business world.

To the readers of this book, we invite you to embark on a profound journey of discovery. We must sincerely thank the organizers, presenters, chair persons and the students in our department, who contributed so magnificently to the success of the conference. We are grateful to the presenters and the participants for their thought-provoking contributions.

Dr. Priyanka Indoria

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IITM College Janakpuri, New Delhi

Acknowledgement

As we present “*Revisiting Management and Business Practices in a Dynamic Era*,” a compilation of papers presented at the International Conference, we take this opportunity to express our sincere gratitude to all those who have contributed to the success of this publication.

First and foremost, we extend our heartfelt appreciation to the authors of the research papers featured in this book. Your dedication, expertise, and insightful contributions have enriched the content of this volume, reflecting the breadth and depth of knowledge that permeated the whole conference. Your commitment to advancing the understanding of management and business practices in the dynamic era has been instrumental in shaping this scholarly endeavor. We extend our profound thanks to the organizing committee, whose meticulous planning and tireless efforts culminated in a conference that was both intellectually stimulating and professionally rewarding. Your vision and dedication created a vibrant platform for meaningful discussions and knowledge exchange, laying the foundation for this valuable publication.

It is with deep appreciation and humility that we acknowledge the collective efforts of all those involved in the creation of this book. Your contributions have elevated the significance of “*Revisiting Management and Business Practices in a Dynamic Era*,” and we hope that it will serve as a valuable resource for scholars, researchers, and practitioners in the field of management for years to come.

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Chapter-1

Building a Diverse and Ethical Workplace: The Impact of Leadership, Personality, and Culture

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Abstract

Organizations should strive to create a diverse and ethical workplace to increase creativity, productivity, and morale. The role of leadership, individuality, and culture in creating an inclusive and ethical work environment is investigated. The values and beliefs of an organization are heavily influenced by its leadership. Leaders that put diversity and ethics first set a precedent that permeates the whole organization. They advocate for and encourage a space with diversity and equity at the workplace so that all employees may contribute to the company's success. Personality attributes also shape the course of an inclusive and moral work environment. People who are more receptive to new information, empathic, and principled are more inclined to value variety and uphold ethical standards. They tend to value diversity of opinion, question prejudice, and act ethically, all of which contribute to a more welcoming and ethical workplace. The success of diversity and ethics programs is heavily influenced by cultural factors. People from all walks of life are drawn to and stay with companies that promote equality and ethical behavior. The success of diversity and ethical initiatives is bolstered by pervasive cultural norms and behaviors that value communication, cooperation, and openness. Organizations must also take measures to eliminate cultural prejudices and impediments in order to provide a welcoming and honest work environment for all employees. An inclusive and ethical workplace is the result of a concerted effort on the part of management, employees, and the company as a whole. Organizations may foster a culture that values diversity, sticks to ethical standards, and brings out the best in employees by acknowledging the impact of these elements.

Keywords: *Workforce Diversity, Ethical Leadership, Leadership styles, Organizational performance, Personality*

Introduction

In today's globally interconnected world, businesses are exerting significant effort to create work cultures that are not just inclusive but also ethical, and which foster innovation, cooperation, and results. Businesses that recognize their workers as unique individuals and strive to treat them with respect and dignity have a better chance of attracting and retaining the most talented and skilled personnel. To accomplish this goal, one needs to use a multi-pronged approach that involves good leadership, knowledge of individual diversity, a dedication to ethics, and respect for the viewpoints of others. To put it another way, diversity is the act of recognizing and working with individuals who are different from one another in any aspect, whether it be their race, gender, age, financial level, ethnicity, physical ability, or sexual orientation. Diversity can also be defined as the practice of working with people who have various physical abilities. Examples of such things include a person's sexual orientation, their spiritual views, and so on. Grobler thinks the same way and argues that people have their own unique identities despite the fact that they share many identical biological and environmental characteristics with one another. There are two different dimensions along which one might classify different types of variety. Individuals differ from one another along fundamental characteristics such as age, gender, sexual orientation, and so on. **(Ashton, 2010)**

This is one of the most evident ways in which individuals are different from one another. Because they affect the glasses through which individuals experience the world, these evident contrasts have the biggest effect on first impressions. Things like a person's religion, level of education, location, money, and other similar factors are examples of secondary dimensions. These factors are not visible at first glance and are prone to change over time. These characteristics don't become obvious until after people have had some kind of interaction with one another. Globalization has led to an increase in the frequency with which people from different backgrounds engage with one another. Consumers all around the continent have developed a more global perspective as a direct result of the proliferation of competitors throughout the continent. Every company has a unique set of difficulties as well as possibilities brought on by diversity, which may be both potentially harmful and perhaps helpful. In order to use diversity in a way that is beneficial to workers as well as the firm as a whole, one must first isolate the fundamental aspects of diversity. The majority of companies recognizes the benefits of having diverse employees and actively seeks to incorporate such perspectives into their operations. In recent years, management has

made it a goal to enhance and improve workplace diversity in an ethical manner. This is a response to the changing nature of the workplace, which has prompted management to make this a priority. Because many companies are still having trouble properly managing diversity, managers frequently gain the information and training necessary to effectively supervise a diverse workforce and instill these values in their coworkers. Some executives and managers in large companies view diversity as a big barrier, despite the fact that it does not have any limitations or borders. **(Dike, 2013)**

Diversity in the workplace and ethical leadership has both been identified as variables that are associated with the success of organizations. The fundamental aim of this study is to explore the nexus that exists between a varied workforce and ethical leadership, as well as the influence that different types of leadership have in an Indian context. According to a summary of the relevant studies, the effectiveness of an organization's leadership may have a beneficial or detrimental effect on the contribution that a diverse workforce makes to that organization's overall performance. The cultivation of an atmosphere that is transparent, fair, trustworthy, and respectful may assist firms in meeting the problems posed by a diverse workforce and capitalizing on the possibilities that it presents. Leaders who adopt a growth mindset and make a concerted effort to improve their own character traits are in a better position to navigate the challenges posed by the presence of diverse employees in the workplace and to cultivate an inclusive culture. It is possible that the cultural and socioeconomic traditions of India, which favor hierarchy, collectivism, and paternalism, may inhibit the efforts of organizations to support diverse leadership and ethical behavior in the country. According to the findings, a combination of a diverse workforce, ethical leadership, and a compelling leadership style may increase the overall performance of an enterprise. It is possible for businesses to more effectively enjoy the benefits of diversity if they use ethical leadership practices and encourage employee growth in a manner that is congruent with the cultural norms of the nation. The findings, when viewed as a whole, provide light on the significance of leadership style and character development in the process of cultivating a workforce that is both multicultural and morally conscientious. The development of leadership training programs for managers and executives, with the goal of improving the latter's ethical leadership abilities, leadership styles, and moral compass, is one of the practical implications.

There has been a lot of focus in recent years on studying the ethical culture of businesses. This is due to a number of factors. An organization's

ethical culture is a precondition for workers to act ethically and come forward when they witness or experience unethical activity. Organizational results, like innovation, have also been found to be correlated favorably with an ethical culture. Organizational ethics programs and national cultures have both been the subject of empirical research as potential drivers of company-wide ethical norms. **(Metwally et al., 2019)**

There has been a lot of research into organizational ethics, and many of the findings suggest that each company has its own distinct culture when it comes to ethics. According to one scholar's literature study, most discussions about an organization's ethical culture are held at the company as a whole. This is because studies have shown that firms with different ethical cultures produce different results. An implicit or explicit assumption of ethical culture homogeneity characterizes the integration perspective on corporate culture **(Martin, 2002)**.

When compared to the integration position, the differentiation opinion on corporate culture couldn't be more different. **(Martin, 2002)** argues that this perspective is unacknowledged and unique because it sees organisational culture as a combination of team, division, and top-down cultures. Occupations, locations, ethnicities, genders, nationalities, job functions, organizational levels, teams, and so on all seem to provide fertile ground for the development of distinct organizational subcultures. When there are many ethical subcultures inside an organization, it is crucial to analyze them in order to comprehend and control the (overall) ethical culture of the business.

The ethical culture has been measured at the sub organizational level, and a number of organizational outcomes have been studied in an effort to determine if there are numerous ethical cultures present inside an organization. Analyses of team ethics as a predictor of employee happiness in the workplace are only two examples of the many studies that have examined the correlation between ethical leadership and ethical conduct in the workplace. The topic of whether or not there are statistically significant variations between ethical subcultures remains unsolved, despite the fact that these studies show the necessity of including ethnic subcultures in leadership and well-being research at the sub organizational level. **(Sackmann, 1997)**

The research adds to the literature by positing the possibility of competing ethical cultures inside a single institution. For instance, in an education institution, the leadership benefits with delegating day-to-day tasks to the Neither this potential nor the relevance of ethical culture disparities inside

an organization have been investigated in the literature as of yet. Given the importance of teams as a managerial and analytic unit in businesses, this paper dives further into the variations in ethical cultures within teams. It furthers its investigations along these lines using the eight-dimensional Corporate Ethical Virtues Model. To begin, each team's cumulative score on all eight aspects of ethical culture is ascertained to see if distinct team ethical cultures can coexist inside a huge corporation. Second, it considers two approaches to the question of whether or not variations in team ethical cultures have any practical significance for businesses. The paper investigates if there is a consistent pattern to the order and distance between the eight aspects of ethical cultures across teams. Each distinct pattern calls for a tailor-made approach to management. It also investigates whether or not the proportion of reported unethical behavior and the reactions of team members might lead to disparities in organizational outcomes operationalized as team ethical cultures. (Schaubroeck et al., 2012)

The three bulwarks of diversity and culture in the workplace include organizational culture, team culture, and ethical culture. The ramifications of the findings for current theory and future investigation are discussed to round out the paper.

Impact of Leadership on Personality, and Culture

The birth of the industrial age was marked by the beginning of the 'modern' period. The changing nature of the economy is a hallmark of the contemporary period. New, international firms emerged as a result of the economic upheaval, and they were unlike anything that had come before. The management of these groups has piqued the interest of academics, and they want to continue looking into the topic. Leadership and organizational culture are the two main foci of these studies. (Holten & Brenner, 2015)

The need for leaders has persisted throughout human history, and it will continue to do so. Researching the history of leadership is a time-honored practice that has persisted throughout the ages. So, studies of management and administration have persisted throughout human history. Especially since the industrial revolution, the global economy has expanded at a dizzying rate, raising the question of how to best structure existing companies to maximize productivity. The characteristics of a leader, the leadership styles in use at the moment, and the leaders' own patterns of conduct are all factors that may be used to describe leadership. Consequently, with the passage of time a lot of new leadership styles emerged. Some of these include - transactional leadership, paternal leadership, charismatic leadership, and

social leadership. Undoubtedly, all of these perspectives have developed to analyze and clarify leadership in organizations. Every fresh perspective that has been proposed has been the basis for more study. **(Ogbonna & Harris, 2000)**

Culture in the workplace, however, was once viewed as the social “glue” that keeps a company running smoothly. Furthermore, Organizational culture can also be defined as a melange of common customs and shared traditions that have blossomed and evolved over the course of time. The language of a culture mirrors its social goals, beliefs, and values, as well as its myths, rituals, and legends.

Both leadership and organizational culture, two important tenets of management theory, are typically studied in isolation from one another in the academic literature. However, it has been proposed that these two ideas are intertwined and should be examined jointly. These two ideas, when considered together, will illuminate the history and development of the company’s culture. **(Surucu & Yesilada, 2017)**

Conclusion

Long-term success for every business depends on the company’s leadership fostering a positive and ethical work environment. Leadership, personality, and culture all contribute to an organization’s success or failure when it comes to diversity and ethics in the workplace. These results stress the need for leaders to foster a trusting environment where workers feel comfortable voicing opinions and suggesting solutions. Leadership is crucial to creating an environment where all workers feel respected and valued. Leaders who respect and promote diversity provide a setting in which people from all walks of life may feel comfortable being themselves. Leaders may foster reliability and moral reflection in their teams by establishing and upholding standards. Characteristics of one’s personality have a significant role in creating a safe and trustworthy workplace. People who are open-minded, kind, and tolerant are more likely to appreciate the differences among us and work together for the common good. Careful evaluation and development of recruitment and training strategies may help a business cultivate a diverse and ethical staff. Both diversity and ethics in the workplace are heavily influenced by a company’s culture.

Employees are more likely to tolerate differences and make ethical judgements while working in a setting that celebrates variety, encourages collaboration, and rewards ethical behavior. Diversity training, employee resource groups, and published ethical standards are simply a couple

of exemplifications of the kinds of activities that may help businesses foster such a culture. There are many wins to be had when a workplace culture of mutual respect and openness is fostered. Workers who are more representative of the milieu in which they live and work are more likely to be original thinkers and problem solvers. Trust, employee happiness, and good connections with stakeholders are all boosted when leaders perform ethically in the workplace. The best and brightest employees are more inclined to join and remain with businesses that value inclusivity and do the right thing. Leaders should strive for a more diverse and ethical workplace by encouraging people to embrace their unique qualities and working to eliminate bias and discrimination. Companies that place a premium on diversity and ethics will not only reap the benefits of living in a more equitable and accountable society, but they will also help to create one.

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Chapter-2

Influencer Marketing and Advertising or Building Brand Communities and Consumer: A Bibliometric Analysis and its Implication

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Abstract

This research paper conducts a bibliometric analysis of scholarly literature on influencer marketing and advertising, as well as building brand communities and consumer engagement. We used bibliomatrix R package to examine the 410 studies to identify research trends for influencer marketing, and advertising or building brand communities and consumer. Through systematic analysis of research articles, conference papers, and relevant publications, key trends, influential authors, and the evolutionary trajectory of these topics are identified. The analysis uncovers prominent research streams, such as the effectiveness of influencer campaigns, the role of authenticity and trust in influencer-consumer relationships, and the impact of influencer-generated content on consumer behaviour. Practical implementation of the insights is also explored, guiding researchers and practitioners towards areas for further investigation and application. This comprehensive analysis contributes to the existing knowledge by offering an overview of the research landscape, facilitating understanding, and informing marketing practitioners on best practices in influencer marketing and brand community building. The study serves as a foundation for future research, enabling exploration of new areas and driving innovation in these dynamic fields.

Keywords: *Influencer marketing, Advertising, building brand communities, consumer, bibliometric analysis.*

Introduction

This research paper conducts a bibliometric analysis of scholarly literature on influencer marketing and advertising, as well as building brand communities and consumer engagement. By utilizing the “biblioshiny” tool under the Bibliometrics R package, we examine 410 studies to identify research trends and implications for these topics. Through a systematic analysis of research articles, conference papers, and relevant publications, we uncover key trends such as the effectiveness of influencer campaigns, the role of authenticity and trust in influencer-consumer relationships, and the impact of influencer-generated content on consumer behavior. The analysis not only provides an overview of the research landscape but also offers practical insights for researchers and practitioners, guiding them towards areas for further investigation and application. By understanding the intellectual structure and co-occurrence networks within the literature, this comprehensive analysis contributes to the existing knowledge and sets the foundation for future research and innovation in the dynamic fields of influencer marketing and brand community building.

Review of Literature

A study by (Gupta & Stephens, 2019) found that influencer marketing can significantly impact brand loyalty, engagement, and trust, which are essential factors in building brand communities. The study highlights the importance of selecting the right influencers, creating authentic and engaging content, and measuring the impact of influencer campaigns to build effective brand communities.

Another study by (Iyengar & Han, 2020) examined the role of influencer marketing in creating brand communities on Instagram. The study found that influencers play a vital role in creating a sense of community and belonging among their followers, which can be leveraged by brands to build their own communities. The study suggests that influencer marketing can be effective in building brand communities if brands focus on authenticity, transparency, and long-term relationships with influencers.

A review by (De Veirman et al., 2017) examined the relationship between influencer marketing and brand communities. The study found that influencer marketing can enhance consumers’ perception of a brand’s social identity and increase engagement among consumers. The study also highlights the importance of building trust and authenticity in influencer marketing campaigns to build strong and long-lasting brand communities.

A study by (Lee et al., 2019) examined the impact of influencer marketing on consumer behaviour in the fashion industry. The study found that influencer marketing can significantly influence consumer decision-making and brand loyalty. The study also suggests that influencer marketing can be effective in building brand communities by creating a sense of shared identity and community among consumers.

David Lichtenthal ISBM Report 3-2004 reported the brief history about outdoor advertising. The fifteenth century saw the separation of the producer from the consumer. Production for mass consumption rapidly increased over the next couple of centuries.

Kotler(2003) Advertising is “any paid form of non-personal presentation and promotion of ideas, goods or services by an identified sponsor” In simple words advertising is a paid and mediated form of communication from an identifiable source, designed to persuade the receiver to take some actions now or in the future. In pure sense, advertising is a business term used to refer to any paid announcement offering ideas, goods or services through various mediums including print, radio, television, cinema, outdoor displays and on the Internet.

Henderson & Landau(1980) One of the earliest mediums of mass communication was the stela of ancient Egypt [Association of National Advertisers, 1952]. Hewn from basalt, these stelai or tablets were about five feet high, two and one-half feet wide, and eleven inches thick. Displayed prominently in town centers and other areas of high traffic, these stelais are the earliest form of mass advertising known to man. Some stelai carried messages that promised a Selective exposure and attention are likely salient in the outdoor arena reward for locating a lost slave.

Bibliometric analysis is an approach that uses a set of quantitative methods to measure, track, and analyze scholarly literature (Roemer & Borchardt, 2015). It identifies the publications by authors, the most prominent journals, as well as the methodologies used and the conclusions obtained (Durán Sánchez et al., 2014).

Metadata gives an overview of any field of research (Milian et al., 2019). Bibliometric methods involve a large volume of bibliographic material and have been used for the analysis of different topics (Blanco-Mesa et al., 2017), Journals (Martínez-López et al., 2018), Countries (Mas-Tur et al., 2019) and others.

The scientific literature contains important bibliometric analyses such as that by Huang et al. (2016), who performed a retrospective bibliometric

analysis of articles about rehabilitation medicine using VR technology. The conclusion was that VR technology was one of the most popular technological advances. The results found a rapid growth in the production of articles in recent years.

Scheme of the Study

The scheme of this study involves a systematic exploration of the scholarly literature on influencer marketing and advertising, as well as building brand communities and consumer engagement, using bibliometric analysis. The study begins by collecting a comprehensive dataset of 410 research articles, conference papers, and relevant publications in the field. The “biblioshiny” tool from the Bibliometrics R package is then utilized to analyze this dataset, providing valuable insights into various aspects of the literature.

The analysis starts with descriptive statistics, which offer useful information about the dataset, such as the number of articles, authors, and co-authorship patterns. It also reveals the average citation per document, indicating the impact of the research in the field. Next, the study examines the main research themes, countries, and key journals through the application of science mapping techniques, including co-occurrence and co-citation analysis. This analysis helps identify the central topics and their relationships, as well as the geographical distribution of research contributions.

Furthermore, the study delves into the analysis of keywords, both author-provided and generated through keyword plus analysis. This analysis provides insights into the most frequent and relevant keywords associated with influencer marketing and brand community building, revealing important concepts and trends within the field.

Research Questions

RQ1: What is the publication and citation trend in the current literature on influencer marketing, advertising, building brand communities, and consumer engagement?

RQ2: What are the core words used in the most influential journals in the field of influencer marketing, advertising, building brand communities, and consumer engagement?

RQ3: What are the most authentic academic publications in the field of influencer marketing, advertising, building brand communities, and consumer engagement?

RQ4: What are the most frequent keywords used in the literature on influencer marketing, advertising, building brand communities, and consumer engagement?

RQ5: Which indicators influence co-occurrence networks in the current literature on influencer marketing, advertising, building brand communities, and consumer engagement?

The Procedure for Bibliometric Analysis

We follow five research steps defined by Zupic and Čater (2015) as the procedure for bibliometric analysis. Figure 1 represents the five steps to investigate bibliometric analysis.

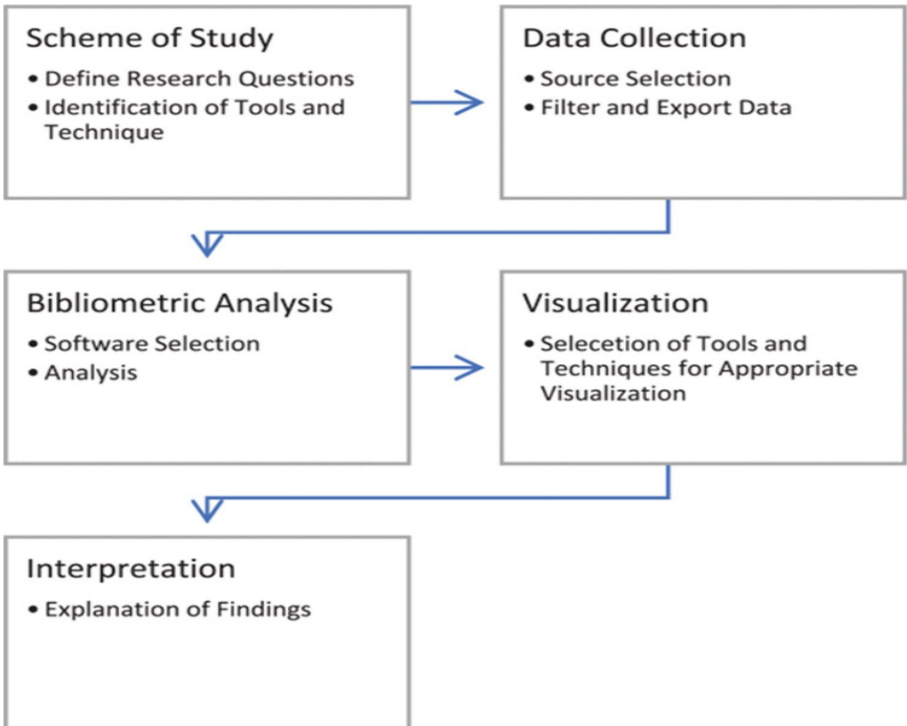


Fig. 1. Bibliometric analysis procedure

Research Objectives and Analytical Study

The research objectives of this paper are to conduct a bibliometric analysis of scholarly literature on influencer marketing and advertising, as well as building brand communities and consumer engagement, and to explore its implications for future research and marketing practices. The analytical

techniques employed include the use of the “biblioshiny” tool from the Bibliometrics R package, which facilitates bibliometric and scientometric analysis, including the examination of intellectual, social, and conceptual structures, authorship patterns, document analysis, and source impact. Additionally, co-occurrence and co-citation analysis, along with keyword analysis, are utilized to identify research themes, influential authors and institutions, and the knowledge structure of the current literature. These analytical techniques provide a comprehensive understanding of the research landscape, informing researchers and practitioners about the trends, gaps, and opportunities in influencer marketing and brand community building.

Selection of Database

We rely on two segments to compose the bibliometric data for current research. During the first segment, we select the research articles from Web of Science (WOS), as it provides the most comprehensive scientific results. Next, we form the search query to select literature and apply various filters so that optimal results match our research objectives. The final search query consists of ‘TITLE-ABS-KEY (“Influence marketing” AND “Advertising” OR “Building brand communities” AND “Consumers”’ The final search outcomes consist of 410 research articles. We limit our search query to find the English language to perform bibliometric analysis.

Bibliometric Analysis and Visualisation

Table 1: Descriptive Statistics

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2000:2023
Sources (Journals, Books, etc)	167
Documents	410
Annual Growth Rate %	14.82
Document Average Age	4.58
Average citations per doc	38.49
References	1
DOCUMENT CONTENTS	
Keywords Plus (ID)	937
Author’s Keywords (DE)	1325
AUTHORS	

(Contd...)

Authors	1064
Authors of single-authored docs	53
AUTHORS COLLABORATION	
Single-authored docs	56
Co-Authors per Doc	2.9
International co-authorships %	32.2
DOCUMENT TYPES	
article	368
article; early access	24
article; proceedings paper	3
editorial material	1
review	14

We use “biblioshiny,” under the Bibliometrics R package to perform the bibliometric analysis, which is designed to provide means for bibliometric and scientometric analysis using the categories of intellectual structure, social structure, conceptual structure, authors, documents, and sources. Biblioshiny allows obtaining multiple results through graphs and tables, which offers distinct features than other bibliometric software. Table 1 provides descriptive statistics, which consists of useful information to understand before moving on with the rest of the analysis. We have finalized 410 research articles authored by 1064 researchers, where 56 publications are single-authored, which indicates a higher degree of research collaboration. Documents per co-author are 2.9, which means statistically co-author has published more than two research paper. The average citation per document is 38.49.

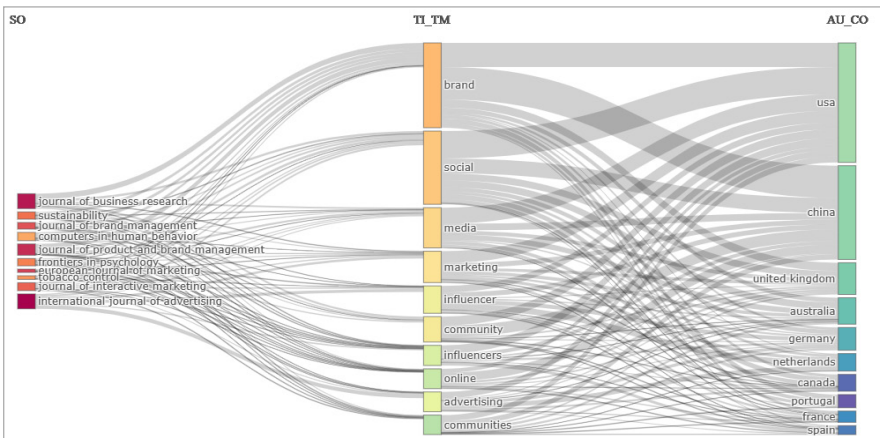


Fig 2. Three -fold analysis

To further the analysis, we examine the main research themes, countries, and key journals Figure 2 presents the three-fold analysis of brand, social, media, and marketing with key research themes in the middle, countries on the right, and research journals on the left side. The figure indicates that brand, social, media, marketing, community and influencer are the main research direction, with most of the contribution coming from China, the USA, China, the UK Australia and Germany.

Core Words

Next, we analyse the most frequent keywords in the literature, where Table no. provides a statistical overview of keywords plus, author keywords, abstracts, and title. In all four keywords analysis, “IMPACT” and “Consumers” are the most common keywords. Meanwhile, “word of mouth, ‘ Social media, trusts are also shown in all categories, these keywords are related to influencer marketing as it explains trends for influencer marketing, and advertising or building brand communities and consumer Additionally, the terms in titles and abstracts are too generic and are less likely to contribute towards main research themes.

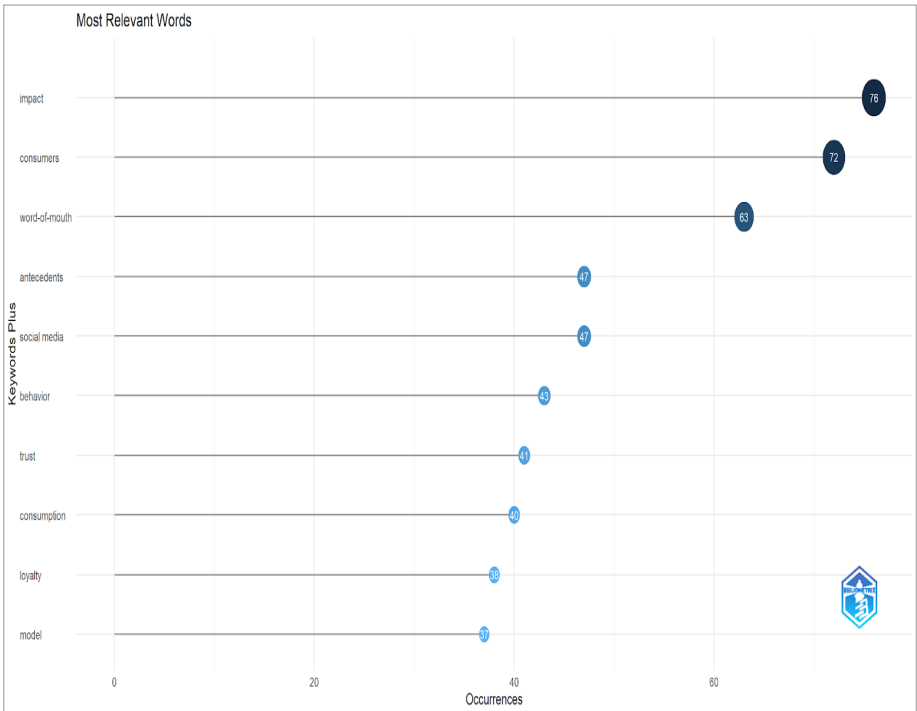


Fig. 3: Most relevant words

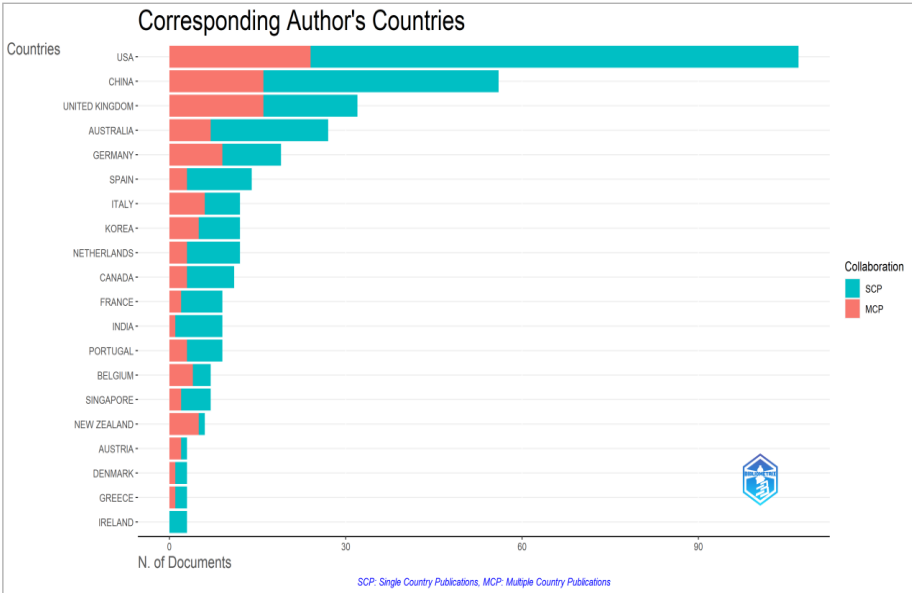


Fig. 6

Fig. 6 provides detailed information regarding the top 20 countries by dividing statistical information into single- authored publications (SCP) and multi-authored publications (MCP). USA is ranked first with more than 90 publications, where more than 30 publications are multi-authored papers. The China, the UK, Australia, Germany and Spain are ranked 2nd, 3rd, 4th, and 5th & 6th research papers. Italy, Korea, Netherland has same numbers of document

Research Questions Main Findings

The research question addressed in this study on influencer marketing, advertising, and building brand communities is to examine the current state of the literature and its implications through a bibliometric analysis. The main findings of the study reveal important insights into the research trends and themes in this field. The analysis of 410 research articles authored by 1064 researchers highlights the prevalence of keywords such as “brand,” “social,” “media,” “marketing,” “community,” and “influencer.” The most frequent keywords indicate a focus on the impact of influencer marketing on brand loyalty, engagement, and trust, with a particular emphasis on word-of-mouth, social media, and consumer behavior. Furthermore, the study identifies China, the USA, the UK, Australia, and Germany as the key countries contributing to the research in this area. These findings

provide a comprehensive understanding of the current research landscape and offer valuable insights for future research directions and implications for practitioners in the field of influencer marketing and building brand communities.

Future Research Direction

First, further investigation could be conducted to explore the effectiveness of different types of influencers and their impact on consumer behavior. This could include examining the role of micro-influencers, nano-influencers, and macro-influencers, as well as studying the influence of various social media platforms on consumer engagement and brand loyalty.

Second, there is a need to delve deeper into the role of authenticity and trust in influencer-consumer relationships. Future research could focus on understanding how authenticity is perceived by consumers and how it affects their attitudes and behaviors towards influencers and the brands they promote. Additionally, exploring the factors that contribute to building trust between influencers and consumers would provide valuable insights for developing effective influencer marketing strategies.

Third, investigating the long-term effects of influencer-generated content on consumer behavior and brand communities would be beneficial. Understanding the sustainability and durability of the impact created by influencer campaigns can help marketers design more effective and enduring strategies.

Furthermore, exploring the integration of influencer marketing with other marketing strategies, such as content marketing and social media advertising, would be worth exploring. Investigating how influencer marketing can be synergistically combined with other approaches to enhance brand visibility, engagement, and loyalty could lead to valuable insights for marketers.

Lastly, the study of the ethical implications and regulations surrounding influencer marketing deserves attention. Future research could examine the ethical challenges and considerations associated with influencer marketing practices and the effectiveness of existing regulations in ensuring transparency and fairness.

Overall, these research directions would contribute to the advancement of knowledge in influencer marketing, advertising, and building brand communities, and provide practical insights for marketers to navigate these evolving fields effectively.

Conclusion

In conclusion, this research paper on influencer marketing and advertising, as well as building brand communities and consumer engagement, has provided a valuable bibliometric analysis and its implications for future research in the field. The analysis has shed light on important research trends, identified influential authors, institutions, and countries, and highlighted key themes and keywords in the literature.

The findings of the analysis suggest that influencer marketing, brand communities, social media, and consumer engagement are significant research areas. The study has also revealed that China, the USA, the UK, Australia, and Germany are the leading contributors to the literature in these fields.

The analysis of keywords and word cloud demonstrates the importance of factors such as word of mouth, social media, trust, engagement, commitment, and loyalty in the context of influencer marketing and building brand communities. These findings indicate that influencer marketing can have a significant impact on brand loyalty, engagement, and trust, which are crucial for developing strong brand communities.

Furthermore, the research paper has provided insights into research collaboration and the intellectual structure of the literature, helping to identify areas where further investigation is needed. It has also highlighted the limitations in the existing literature and suggested under-researched topics that warrant further exploration.

The implications of this research are significant for both academia and practitioners in the field of influencer marketing and brand community building. The findings can guide future research efforts, inform strategic decision-making in marketing campaigns, and contribute to the development of effective strategies for engaging consumers and building brand communities.

Overall, this research paper contributes to the understanding of influencer marketing, advertising, and building brand communities by providing a comprehensive analysis of the existing literature and identifying avenues for future research. It encourages researchers to explore new research directions, conduct sectoral analyses, and employ meta-analysis techniques to enhance the quality and breadth of research in this field.

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Chapter-3

Mapping the Evolution and Trends of Gig Economy Research: A Bibliometric Analysis

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Abstract

Due to gig economy's radical changes to the labour market, it has received a lot of attention recently. Through a bibliometric analysis, this study seeks to give a thorough overview of the development and trends in gig economy research. A sizable corpus of 499 scholarly papers about the gig economy was gathered and examined using R studio's Biblioshiny tool. Prior to doing the research, data are acquired from academic database- Web of Science. Following collection, the data is processed and examined to examine co-occurrence networks, citation trends, and other bibliographic information. The analysis determines the most significant papers, significant research fields, and notable publications on the subject by looking at keywords, co-citation patterns, and co-authorship networks. The results show a rise in publications over the previous ten years, indicating a rising interest in gig economy research. The bibliometric study also illuminates the cross-disciplinary collaboration and interdisciplinarity of gig economy research. The fact that scholars from many different disciplines are involved, emphasises the multifaceted aspect of analysing the gig economy phenomena. Revisiting management and business practises in the dynamic era offer a crucial perspective to this research by examining how conventional management and business techniques must change to accommodate the shifting nature of the gig economy. The findings of this study help in advancing knowledge of the causes, challenges, and effects of the gig economy, guiding subsequent research efforts and contributing in the creation of evidence-based policy in this rapidly emerging field.

Keywords: *Gig work, Gig economy, Platform economy, Sharing economy, Access economy*

Introduction and Literature Review

Due to technology improvements and shifting job choices, the gig economy has become a disruptive force in the modern labour market. Understanding the trajectory and patterns of the gig economy study is crucial to understanding the consequences and future orientations of this kind of work as it continues to develop. Delivery of services and goods has changed dramatically as a result of the gig economy's explosive expansion, which is being fueled by technical improvements and the advent of digital platforms. Almost any service or product may now be accessible online or through hybrid methods, from news and banking to medical services, education, and commerce (Osburg, 2017). The "access economy," "platform economy," "sharing economy," and most prominently, the "gig economy" have all emerged as a result of this change (Scuotto et al., 2021). The gig economy has disrupted traditional employment arrangements and presented new possibilities and difficulties for workers, firms, and governments. The gig economy is characterised by short-term contracts and freelance labour mediated by digital platforms. For an understanding of the dynamics of this rapidly expanding phenomenon and to guide evidence-based decision-making, it is essential to know the growth of the gig economy study. Short-term contracts or freelance work were once regarded as being an element of the gig sector (Healy et al. 2017). However, the gig economy notion encompasses all occupations that include digital or remote employment, not only those with short-term contracts for delivery of goods like food or transportation. Generally speaking, it may be described as an environment where employers and workers collaborate online to complete certain activities (Bunders et al.2022). On the one hand, the gig economy was ushered in by ICT development, blockchain technology advancements, and individual preparedness (Malik et al. 2021). Additionally, the COVID-19 epidemic hastened the gig economy's development because everyone had to work remotely. The average daily jobs rose during COVID-19, which had a beneficial impact on the gig economy (Umar et al. 2021).

On the downside of gig labour, however, there are still ambiguous and complex relationships based on digital platforms, such as the inability to change the working circumstances that employees must concur with (Rodrigues et al. 2021). Additionally, gigs frequently feature low pay, unclear revenue, a high chance of termination, inadequate compensation,

unstable working circumstances, and low-quality entrepreneurial operations. Further research has demonstrated that gig labour can lead to social isolation, erratic working hours, overwork, low income, and no social insurance or pensions for retirement (Hardy and McCrystal 2022; Scuotto et al. 2021). However, the gig sector is a worldwide phenomenon that has doubled in size and is growing considerably faster than anticipated. The sharing economy possesses positive and bad effects, but it has become the new standard in terms of employment and labour. The only difficulties are in adapting it sustainably while still adhering to political and social policies.

The current paper focuses on analysing previously published publications using keywords and provide suggestions for future research projects. The overall goals of the study are to review (1) the primary publications for articles, (2) authors who have made significant contributions to the gig economy research field, (3) countries that have a significant impact, and (4) the most popular keywords, search terms evolution, and clusters.

Methodology

A bibliometric analysis was done along with a Systematic review of the literature on the gig economy. The outcomes were determined by combining both systematic and bibliometric approaches. Web of Science database searches were used to search for documents up to 2023 as it offers the most complete set of scientific findings. The search technique was to just use the keyword TS = (“gig economy”), which covered titles, abstracts, keywords, and indexing fields, as the gig economy is a less well-researched issue among academics. In all, 609 research papers were found in the final results. To conduct bibliometric analysis, researchers have restricted search to open access and enriched cited reference papers and removed 101 publications to satisfy the goals of present research. Following that, complete records and referenced references were exported for all 499 of the papers. The selection process is depicted in Figure 1 below and was based on 499 articles that were processed by “Biblioshiny” under the Bibliometrics R package.

A well-known and in demand approach for reading and evaluating scientific literature is bibliometric analysis. It is employed for research elements, collaboration patterns, trends, and the intellectual framework of the field (Donthu et al. 2021). It provides examples of network analysis, teamwork, nations, authors, and keywords. To achieve the necessary effects with RStudio programme, there are several open-source tools available. The bibliometrics package which is one of the key programmes for bibliometrics analysis (Abdallah et al. 2021) helped in fetching the data and requisite

results. Biblioshiny from the RStudio bibliometrics package was used in this study to carry out the analysis.

Results and Discussion

General Bibliometric Analysis Features

The primary themes of the examined articles are displayed in Table 1 based on the “gig economy” keyword study. Between 2014 and 2023, the papers were expanded upon by 1052 authors and published in 401 sources.

Figure 2 shows there has been an increase in the number of publications between 2017 to 2022, with an annual percentage growth rate of 46.97%. In instance, from 33 articles in 2018 to 139 papers in 2022, the number of publications rose quickly. The fact that firms increased their use of gig workers after COVID-19 in order to better meet shifting business demands is evidence of this trend (Mahato et al. 2021). Hence supporting the rise in research paper. More than 70% of the research that have been published also touch on the labour market or human resources. 59 million individuals, or around 36% of the US work force, used the gig economy in 2020 (Kolmar 2022).

The number of writers published by the quantity of associated authors is displayed in Figure 3. There are 1052 authors in total, out of which Only 9% of the total writers (90) have authored two papers. Overall, just one paper has been published by 87.5% of writers. Additionally, just 24 writers, or 2% of the total, worked together to create three publications. From 2014 until 2023, 499 articles were published in total.

Source

Between 2014 and 2023, 444 articles were published in total. Work Employment and Society, New Technology Work and Employment and Journal of Industrial Relations are the top three journals in terms of influence and the quantity of papers published. Majority of papers (17) about the gig economy have been published in the journal New Technology Work and Employment.

Tables 2 and 3 indicate the journals’ rankings as well as the quantity of articles and best-ranked journals. The productivity and citation effects of journals are gauged by h_index . The “Work Employment and Society” journal has the greatest h_index and most citations (1134 citations), as shown in Table 2 of all journals.

Authors

There are 1052 authors in total. In all, 12.7% (134) of the total—had single authored documents, while 26.95% of them had foreign collaborators. The dominance factor, which takes into account the frequency of both single- and multi-authored publications, placed Graham as the top author. There are three main authors: Graham, Lehdonvirta, and Bissell. Apart from this, Graham, Hjorth, and Lehdonvirta have the most citations at 114.6. The amount of citations and publications per year is shown by the larger and darker circle. The graphs of the authors' output (publications and citations per year) over time are shown in Figure 4.

Countries

The vast majority of writers that contributed to publications regarding the gig economy come from most industrialised nations. The USA, where the majority of start-ups and gig businesses are based, is the main nation. Australia and the UK come next, with 57 and 88 articles, respectively.

Figure 5, which was produced using the “Biblioshiny” application and RStudio, displays the country's production in the scientific field. According to Fusco et al.'s 2020 study of the density of blue colours, dark blue denotes significant productivity, whereas grey denotes no articles.

Word Map of Keywords

The term “gig economy” is used the most (94 times). The findings indicate that work (76) and labour (89) are the most evolving keywords in this study area. Figure 6 illustrates the selected sector's emphasis on management, economics, and employment, demonstrating how factors affecting employment are carefully explored in the gig economy profession.

The density gauges the network's fortitude and establishes its stage of growth. A keyword cluster analysis is shown in a two-dimensional figure (Figure 6).

This illustrates the importance and influence of categorising topics and mapping: The primary themes are displayed in the upper-right corner, the fundamental themes are displayed in the lower-right, the emerging or vanishing themes are displayed in the lower-left, and the highly specialised or niche themes are displayed in the upper-left corner (Aria and Cuccurullo 2017). Given 250 units, a frequency of 5, three labels per cluster, and a label size of 0.3, the coupling map created three clusters of results that

were distinguished by the author's keywords. The gig economy, Platform economy, and sharing economy have the most influence (Figure 7).

Gig economy and Labour have been popular subjects since 2018, as indicated in figure 8, thus academics and researchers are particularly interested in these expressions.

The following increasing keywords are "work" and "employment," which have also grown over the past few years as the gig economy has had a big influence on the employment sector.

Outsourcing and Unemployment were the trending topic in 2019. Meanwhile uber and sharing economy started appearing more frequently in articles in 2020. However, in 2021 gig economy became the main topic of discussion. Currently, digital platforms are emerging as a trending topic as shown in Figure 9.

Conclusion

In today's era, the economy is undergoing a paradigm transition in terms of the workforce, workspaces, and work platforms. Independence & Flexibility has emerged as the new work slogan, which has redefined the meaning of labour. This study presented a statistical investigation of the broad academic research on the gig economy, which has drawn attention in recent years.

The publications were examined using bibliometric analysis, which took into account the articles' primary characteristics, authors, co-authorship between nations, keywords, most-cited articles, and co-occurrences. According to the results, developed nations are engaged in this area of research and exhibit crucial cooperation. As per results, gig economy has the most influence on employment because most articles addressed the interaction between employers and employees. The following topics are currently being discussed in relation to employment and gig labour: (1) new organisational types (2) Lack of social and legal framework; and (3) Differentiating employees from independent contractors (Tan et al. 2021; Marquis et al. 2018; Keith et al.2019; Behl et al. 2021; Hudek et al. 2021)

Researchers expect that future study will continue to examine the various facets of the framework necessary to assist the gig workers and the organisations in light of its theoretical and practical value towards sustainability.

Managerial Implications

Findings of this paper have implications for managers and policymakers. The report makes note of crucial yet understudied and unregulated issues in the gig economy, including taxation, ethics, social welfare protection, and performance control. Managers should actively address these issues, aiming to establish ethical behaviors and adhere to the necessary laws. This can entail going over service agreements, giving gig workers the assistance they need, and guaranteeing data security.

The report underlines that the gig economy has a major impact on employment. Managers need to be aware of how gig labor affects employment dynamics. Managers can use this knowledge to alter corporate policies, procedures, and tactics to successfully negotiate the gig economy.

Limitations

The first drawback is that it is based solely on articles that are present in the Web of Science database. This might result in selection bias. Another limitation is while classifying publications, researchers have included open access and extensive citation papers which may have led to variations in the results.

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Chapter-4

A Study on Factors Affecting Consumer Buying Decisions Towards the Purchase of Green FMCG Products

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Abstract

Purpose: *To identify the factors affecting the consumer buying decisions towards the purchase of green fast-moving consumer goods.*

Methodology: *he research study employs a descriptive and qualitative methodology. The analysis is conducted using Advanced Excel, which includes the utilization of T-test and ANOVA tests.*

Findings: *Based on the study, the findings reveal that consumers are motivated to purchase environmentally friendly fast-moving consumer goods (FMCG) products due to various factors. These factors include considerations such as product quality, lifestyle choices, health concerns, promotional activities, advertisements, convenience, and environmental consciousness.*

Research Limitations: *Since convenience sampling was used and the sample size was small, not all respondents were fully covered.*

Originality: *This paper is a first attempt at examining the factors affecting consumer behavior towards green FMCG products.*

Keywords: *Green FMCG, Consumer Buying Behavior, Eco Friendly Products, Environment Concern, Advanced excel, T test, Anova*

Introduction

Green items, also known as environmentally friendly or eco-friendly items, are goods and services that have no significant negative impacts on the environment and consumer health. They promote environmental sustainability by protecting the environment and conserving resources for future generations. The FMCG sector, which encompasses a wide range of consumer packaged goods such as detergents, toiletries, cosmetics, and more, holds the fourth position in the Indian economy. Recognizing the environmental consequences of their products, companies operating in the FMCG industry are becoming more conscious and are actively pursuing eco-friendly certifications to meet the demands of environmentally aware consumers. The market for environmentally friendly products has seen significant growth, with new businesses and products entering the market regularly. Indian consumers are gradually recognizing the importance of using eco-friendly, natural, and organic products for a healthier and more sustainable lifestyle. While the terms “eco-friendly” and “organic” are often used interchangeably, they have distinct qualities and implications. Organic products are made from organically cultivated ingredients without the use of pesticides or fertilizers and do not contain chemicals, genetically modified organisms, artificial perfumes, or colors. Indian consumers have shown interest in natural and organic products, although the adoption rate is lower due to higher costs. However, many brands in India have emerged with 100% natural and organic products at affordable prices to make them more accessible. Consumers are willing to make the switch to eco-friendly companies and are even inclined to pay more for sustainable products, according to studies. The organic food industry in India is projected to grow significantly, considering the increasing demand for eco-friendly products.

Literature Review

Suraj Verma et al. conducted a study in rural areas to determine the demographic factors impacting the decision-making processes for purchasing green FMCG items. They discovered that decisions regarding product categories including toothpaste, shampoo, soap, and hair oil were highly influenced by variables like educational qualifications, occupation, and family members under the age of 18. Sewwandi and Dinesh investigated the impact of environmental advertisements, the perception of eco-labels and brands on green purchasing behavior. Their study, based on a survey of 150 individuals using home appliances, revealed a strong positive association between these variables and green purchasing behavior among

consumers. Wencan Zhuang et al. conducted a meta-analysis to determine the factors influencing consumers' green purchase intentions. The study found the strongest positive correlations between green buying intention and perceived value, attitude, and trust. On the other hand, there was a moderate level of association between variables like perceived behavioral control, subjective norm, and environmental concern. Ashish Gupta et al. concluded that consumers' agreement with specific attributes of green FMCG products was satisfactory but emphasized the need for additional marketing and awareness campaigns. They found that most respondents preferred buying green FMCG products from organized retail stores, presenting an opportunity for marketers to focus on these distribution channels. N. Divyapriya Dharshini et al. explored the reach and impact of eco-friendly products among consumers, emphasizing the need to educate people about the features and uses of green products. Rakesh Dondapati and S. Rabiya Basariya revealed that consumers are open to buying eco-friendly FMCG products if they are persuaded of their environmental advantages and if the cost is competitive with that of traditional goods. Rizka Zulfikar et al. discovered that Banjarmasin's public prioritized functional value indicators over other factors like social value and economic value when considering green products. ML Ashok et al. highlighted consumers' willingness to buy eco-friendly FMCG products when convinced of their environmental benefits and reasonable cost.

They emphasized the importance of awareness campaigns and the use of eco-labels. Nagaraju et al. found that although consumers are becoming more aware of the benefits of green products, there is still a need for further efforts and collaboration between the government, organizations, and consumers to achieve ecological balance. Anees Ahmad et al. investigated how consumer environmental concern, environmental knowledge, and perceived self-expression benefits influenced attitudes and intentions to purchase green brands. They found that self-expression benefits and environmental concern significantly influenced Indian consumers' inclination to purchase green brands. Shweta Singh et al. found significant differences in eco-friendliness between genders and age groups, with women showing a higher inclination towards eco-friendly choices. Price and promotion were identified as vital factors influencing mindsets and desires towards buying eco-friendly products. W. M. C. Bandara Wanninayake et al. highlighted the increasing realization among businesses and customers about the importance of environmental responsibility. They emphasized the need for green marketers to make it easier for people to make environmentally friendly choices.

Research Objective and Methodology

Research Objective

1. To identify the factors affecting customer buying decisions towards fast-moving consumer goods.
2. To study the most important factor among identified factors in consumer buying decisions towards green, fast-moving consumer goods.
3. To study the impact of demographic factors (gender and educational qualifications) on consumer buying decisions towards green fast-moving consumer goods.

Research Methodology

In this study, researchers utilized a descriptive design to examine consumer buying behavior towards green fast-moving goods (FMCG). The study aimed to address various questions, such as the reasons behind people's purchases of green FMCG, where they typically make these purchases, and which age group demonstrates the highest purchasing of green FMCG, among other related inquiries. In the study, primary and secondary data were both used. While secondary data was gathered through websites, research papers, periodicals, journals, and other pertinent sources, primary data was gathered through questionnaires created using Google Forms. Convenience sampling was employed, and questionnaires were distributed among 150 individuals. However, due to incomplete or missing data, the analysis was conducted on a sample of 106 individuals.

Hypothesis

- a. Gender has little to no impact on consumers' purchasing choices for fast-moving green goods.
- b. Education levels have little or no bearing on what consumers choose to buy when it comes to fast-moving green consumer goods.

Data Analysis

Analytical tool

The collected data will be analyzed using Excel Inferential Statistics.

Interpretation

It can be inferred that respondents give the utmost priority to quality and health while making decisions about buying green FMCG products.

After quality and health, promotion and advertisement play a key role in comparison to packaging, easy accessibility, and the environment when purchasing green FMCG products.

Results

Interpretation of T test

The t test estimates the true difference between two group means, and according to the results shown, the absolute value of the t statistic is (-33.67). The critical value at a significance value of 0.05 is (1.98). As compared, the p-value is less than the critical value, so we reject the null hypothesis, stating that the sample means are not significantly different. Gender does not influence purchasing decisions for green FMCG products.

Interpretation of Anova Test

The anova test estimates the true difference between two or more group means, and as per test results, if the p-value is less than .05, we tend to reject the null hypothesis of the one-way ANOVA and conclude that group means are not equal, i.e., educational qualification is not the influencing variable for purchasing green FMCG products.

Discussion

The research paper highlights the quality of eco-friendly products in the FMCG category and promotes the users to buy Green FMCG products. In order to analyze the respondents' purchasing choices with regard to a few key factors, including quality, environmental concerns, lifestyle, health, price, packaging, accessibility, promotions, and marketing. On a 5-point Likert scale, the basis for decisions was rated as "strongly agree," "agree," "neutral," "disagree," and "strongly disagree". It was also found that consumers tend to buy the green FMCG products in the near future as well but there is no role of gender and qualification in buying behavior of the product. Customers typically purchase green fast-moving consumer goods (FMCG) from supermarkets, as these stores offer an extensive selection of green products.

These goods contribute to conservation, reduced pollution levels, and a healthier environment as a result of their sustainable production. In eco-friendly products, the use of non-toxic materials is prioritized over harmful compounds that are hazardous to both humanity and the environment. They do not contain potentially harmful substances such as phthalates, solvents, or

parabens. Consumers' growing concern for the environment has compelled producers to come up with products that are secure for the environment and better for the well-being of consumers.

Conclusion and Implications

Through the study done above, it can be said that people have the intent to purchase eco-friendly fast-moving consumer goods (FMCG) as long as the price is not significantly higher than that of conventional products. People are migrating towards more green or eco-friendly items to strengthen their immune systems, as demonstrated by the fact that health and quality are their top priorities when purchasing green FMCG. Consumers also find green FMCG products to be more expensive than conventional goods, but they are prepared to pay extra. According to our research, if the manufacturers wanted to increase sales of green fast-moving consumer goods (FMCG), they should market their products through advertising, as a large number of people are influenced by it. Since organized retail outlets are where the majority of respondents wish to purchase green FMCG items, marketers and manufacturers of green FMCG products can emphasize organized retail outlets as a distribution channel. Green consumer packaged products have typically been well received, and this trend will likely continue for the foreseeable future.

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Chapter-5

Unfurling the Dimensions Pertaining to Empowerment of Self-help Group Members through Micro Credit

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Abstract

The concept of microcredit is gaining importance in the recent years and has become one of the most discussed and debated topics. This is due to the spillover effects of the credit that has power to collectively transform lives of the poor by proving them tangible results. In this direction, the importance of Self-help groups is much emphasised. In case of SHGs, the members are provided aid for a variety of tasks like training, obtaining raw materials, and marketing, therefore producing revenue for households. These micro-enterprises help them in generating main or additional income for supporting themselves and their families. On account of these credit services, there the microcredit clients generate the feeling of self confidence and self-belief as they feel self-reliant to run their microenterprises as well as support their families. Thus, microcredit programmes encourage independence and self-assurance of the members of the Self-help group.

The present paper aims to understand and unfurl the dimensions of microcredit pertaining to Self help group members. For this purpose, various themes have been identified in terms of study of demographic factors like age distribution, educational attainment, marital status, occupation and level of income. In addition, variables such as social empowerment have also been considered. This study evaluates previous research to better understanding of how microcredit affects SHG members. The goal of the study is to comprehend and assess the impacts of microcredit on the lives of SHG participants while taking into account their age,

education qualification, occupation, marital status and level of income. In addition, social empowerment indicators such as self-confidence, self-esteem, self-respect, increased involvement in decision-making, participation in training programmes were considered.

The study concludes that provision of microcredit through self-help groups has helped in enhancing the income levels and promoting social empowerment of the members. Financial services allow SHG members to start micro-businesses, engage in income-generating activities, and generally enhance their quality of life. It has also increased self-confidence, self-esteem, respect, increased involvement in decision-making and increased participation in the training programmes of the associated members of SHG.

Key Words: *Demographic Factors, Microcredit, Income Generating Activity, Self-Help Group, Social empowerment.*

Introduction

Indian economy is characterized by a vast population of 1.42 billion (approx.) and has witnessed the upward sloping growth rates of population along with development rates in the recent years (United Nations Report, 2023). This is on account of recent advances in service sector, manufacturing sector along with information technology sector that have driven the growth in the economy.

Ironically, despite the development of the economy, poverty still remains to be a significant challenge as the growth has not been inclusive for all the segments of the society. In this direction, the formation of Self-help groups have helped in mitigation of poverty in India. This is on account of the fact that the formation of self-help groups involves the extension of credit to the members that help them in ensuring their living. These credit services include the provision of finance for supporting activities like training, raw material supply, marketing of products which provide a support to the “micro-enterprises”. These micro-enterprises help them in generating main or additional income for supporting themselves and their families (Vinayagamorthy, 2007). On account of pursuance of these credit services, there the microcredit clients generate the feeling of self confidence and self-belief as they feel self-reliant to run their microenterprises as well as support their families (Ravi, R. V., and Venkataramana, 2005).

In all, micro credit takes into consideration both social and economic factors and helps the beneficiaries on both fronts (Dadhich, C.L., 2001). In the present study, an attempt is being made in order to consider the demographic variables such as age composition, age distribution, educational

attainment, marital status, occupation and level of income. In addition, social empowerment indicators such as self-confidence, self-esteem, self-respect, increased involvement in decision-making, participation in training programmes were considered. The present study thus gives the justification of the same.

Concept of Microcredit

Microfinance refers to “the provision of financial services, primarily savings and credit, to poor households that do not have access to formal financial institutions” (Dadhich, 2001). It helps in making funds available to the vulnerable segments of the society who find it difficult to access the funds from formal institutions Singh, R. K., and R. Kumar, 2008). It facilitates the development by making efforts in alleviation of poverty by providing financial services which helps poor to take up income generating activities and thereby ensuring women social empowerment (Balu, V., 2005).

It has been used as an income generation tool for the poorer section of population and effectively running in many third-world countries (Dadhich, C.L. (2001). This tool has great significance in alleviating poverty and vulnerability of the poorer groups through shattering the disastrous cycle of poverty (Chowdhury, 2009). The aim of microcredit is to reduce poverty by creating self-employment in low-income communities (Bauchet et al., 2015).

Microcredit helps people to generate income by lending them money for starting their own business or making an investment to increase their potential to earn. This in return will lead in increased household income, reduce poverty level and improve the well being of the individuals. It also helps in creating job opportunities. It targets small company owners and self employed individuals to expand their company by providing those funds. This expansion in return creates a lot of job opportunities. Microcredit also promotes financial inclusion by providing financial services to the people who are not able to access financial services by banks and other financial institutions. It provides services such as saving account insurance etc. Thus, microcredit facilitates empowerment of women by providing them financial assistance and motivating them to start their own business, increase their earnings by providing them with funds and other financial resources required by them (Lokhande, M. A., 2010)..

Concept of Self-help Groups

Self-help groups (SHGs) are small, voluntary organisations of people that meet regularly to share experience, provide support and to discuss

issues. In order to empower its members and enhance their general well-being, SHGs are typically established at the local level, mainly in rural regions (Dadhich, 2001). These groups are often made up of people who are dealing with issues like poverty, a lack of access to financial services, a lack of access to quality education, or social marginalization (Mcguire and Conroy, 2000).

Self Help Groups (SHGs) are informal associations consisting of 10-20 members whose purpose is to enable members to reap economic benefits through mutual help, solidarity and joint responsibility (Nithyanandhan S. H. and Mansor N., 2015).

They have emerged as an effective mechanism of empowerment and development of women as well as being an efficient mode of promoting group action and technology dissemination. The formation of women's SHGs and conducting training programmes for harnessing the benefits of value addition and processing technologies for employment and income generation of SHG members has received an elevation now a days. (Meena, Jain D. and Hans M., 2008)

Self-Help Group (SHG) is thus, considered an effective means of women empowerment. However, its effectiveness is subject to its functioning. (Chinmaya R. and Nayak C., 2021)

Literature Review

A number of studies have been conducted on several aspects of microcredit. In the present study, the literature has considered demographic, educational qualification, occupation, income and marital status of the members. A brief review of literature available, concentrating on different issues relating to microcredit is given below:

Sr. No.	Author	Year	Major Conclusions
1	Meena M. S., Jain D. and Meena H.	2008	<ul style="list-style-type: none"> This study found that training positively changed the attitude of rural women towards SHGs. Groups can be used as an effective mechanism for information dissemination, social and mutual learning, capacity building and empowerment, and sustainable and equitable development. Programmes for rural upliftment must integrate vital dimensions such as formation of social capital, financial and credit support system, market-driven and decentralized extension system, diversification towards high-value enterprises, need-based skill development, media-mix for technology transfer, and strong political will.

(Contd...)

2	Vanithamani M R	2012	<ul style="list-style-type: none"> • Microfinance programmes like the Self-Help Bank Linkage Programme (SHG) in India have been hailed for their positive economic impact and the empowerment of women. • SHGs are diminutive groups of 10-20 members, based on the outlook that women are more expected to be credit inhibited.
3	Sarania R.	2015	<ul style="list-style-type: none"> • The empowerment of women in India is an important issue, and Self-Help Groups (SHGs) have emerged as a powerful tool for poverty eradication and empowerment of the poor. • This study examined the effectiveness of SHGs on the economic empowerment of women, finding that they have served the cause of women empowerment and socio-economic betterment of rural poor women. • The study found that microfinance through SHGs has been playing a vital role in the empowerment of women in the study area. • Organizations involved in microfinance should closely monitor the utilisation of credit by members and motivate them to use it for productive purposes. • Action should be taken to stimulate entrepreneurial spirit among women, and agency related inputs should be developed for capacity building. • Stabilisation and sustainability of the group members should be ensured.
4	Nithyanandhan S.H. and Mansor N.	2015	<ul style="list-style-type: none"> • This study found that SHGs played a major role in the development of women, providing them with a chance to interact with institutions, develop friendship, express solidarity, develop leadership, and discover a new identity. • Members also contributed to their families' development, paving the way for them to be involved in income-generating activities and increase their savings. • Women's empowerment is synonymous with equality and equal mindedness in society.
5	Gupta R. and Aggarwal S.	2017	<ul style="list-style-type: none"> • Self Help Group members are aged 21-40, 58.67percent literate, 61.33percent joint family, 74.67percent married, 52percent small scale enterprises, 42percent earning 4000-8000 Rs, 82.5percent facing difficulties in group formation, 70percent Hindu, 46percent Muslim.
6	ZaeiM.E., Kapil P, Pelekh O. and Nasab A.T.	2018	<ul style="list-style-type: none"> • This study found that micro credit enabled SHGs have significantly impacted the lives of rural women in Punjab, India. • Micro credit facilities instill a sense of self-confidence and esteem among women and empower them financially, as well as socially. • This has enabled rural women to become self-sufficient and move above the BPL (Below Poverty Line) tag, and to take decisions related to their health, education, and other household issues. • This has a positive impact on their physical and psychological well-being, as well as their psychological and emotional states.

(Contd...)

7	Kapila M., Singla A., Gupta M.L.	2016	<ul style="list-style-type: none"> • The formation of SHGs in Punjab state is creating a positive impact on the livelihood of women, as income and empowerment levels increase after joining SHGs and availing micro-credit. • However, measures should be adopted to address problems such as delay in sanction of loan, inadequate loan size, lack of skill based training and difficulties in marketing the product. • Results of the study showed that respondents availing microcredit contribute much higher to their family income than those who do not avail microcredit. • Therefore, there is a need to increase the quantum of loan and enhance knowledge and management skills of small borrowers for different types of ventures to convert them into large borrowers.
8	Rai R. & Devadasan P.M.	2019	<ul style="list-style-type: none"> • The role and integration of women in economic development is an indicator of economic independence and social status was emphasized. • Micro-financing through SHGs can help in eradicating poverty and empowering women, but a change in the community attitude is needed. • Women groups have proven to bring about a sea change in the mindset of conservative and traditional bound illiterate women belonging to rural areas. • SHG movement among the rural poor is becoming a reliable and efficient mode for technology transfer. It is successful in addressing the interests of women in a sustained manner.
9	Junuthula S, Uma K, Suchiritha S..	2021	<ul style="list-style-type: none"> • The review of the extent of literature on micro-finance reveals that the existing studies highlight the impact of SHG and microfinance on economic improvements in households, capacity building, and empowerment. • Microfinance through self -help groups plays a pivotal role in sustainable rural development. SHGs were used by the government, NGOs and others worldwide to empower women and to give lives to the poor families.
10	Kumar C.R. and Nayak C.	2021	<ul style="list-style-type: none"> • SHGs have empowered women to participate in productive activities, increase decision-making power, and increase monthly income. • Government should conduct awareness and skill development programs to educate women in rural areas and provide marketing facilities.

Objectives of the Study

The objectives of the study are as follows:

- To explore the theoretical perspectives related to microcredit.
- To conduct extensive review of literature to gain an understanding of impact of microcredit on SHG Members.

- c) To unfurl the dimensions pertaining to operation of SHG in India through thematic study.
- d) To provide suggestions for the effective working of SHG groups.

Research Methodology

In the present study secondary sources of data have been used. In order to conduct the study, comprehensive review of literature has been done. For this purpose, published work in journals, reports and internet web sources relevant to the study have been considered.

DATA ANALYSIS

A. Age composition

S. N.	AUTHOR	YEAR	MAJORITY AGE GROUP	CONCLUSION
1	Meena M.S., Jain D. and Meena H.	2008	20-29 years	Majority of the members belong to the age group of 20-29 years.
2	Gupta R. and Aggarwal S.	2017	21-40 years	Majority of the members belong to the age group of 21-40years.
3	ZaeiM.E., Kapil P, Pelekh O. and Nasab A.T.	2018	35-44 years	Majority of the members belong to the age group of 35-44 years.
4	Rai R. and DevadasanP.M.	2019	31-35 years	Majority of the members belong to the age group of 31-35years.
5	Kumar C.R. and NayakC.	2021	31-40 years	Majority of the members belong to the age group of 31-40years.

From the above data, we may conclude that the majority of the members of SHG belong to age group ranging between 31-40 years.

B. Education

S. N.	AUTHOR	YEAR	MAJORITY GENDER	CONCLUSION
1	Meena M.S., Jain D. and Meena H.	2008	Primary and senior secondary	As per this research, 33 percent of the members were educated till primary and senior secondary each.
2	Gupta R. and Aggarwal S.	2017	Literate	As per this research, 58.67 percent were of the members were literate.
3	ZaeiM.E., Kapil P, Pelekh O. and Nasab A.T.	2018	Ability to Read & write	As per this research, 38.6percent of the members could read and write.
4	Rai R. and Devadasan P.M.	2019	Primary and secondary	As per this research, 36 percent of the members were educated till primary and senior secondary each.
5	Kumar C.R. and NayakC.	2021	Illiterate	As per this research, 44 percent were of the members were illiterate.

From the above, data we can conclude that majority of the members are literate and had completed their primary and secondary education.

C. Marital Status

S.N.	AUTHOR	YEAR	MAJORITY GENDER	CONCLUSION
1	Gupta R. and Aggarwal S.	2017	Married	As per this research, 74.67 percent were of the members were literate.
2	Zaei M.E., Kapil P, Pelekh O. and Nasab A.T.	2018	Married	As per this research, 73.3 percent were of the members were literate.
3	Kumar C.R. and NayakC.	2021	Married	As per this research, 90 percent were of the members were married.

From the above data we can conclude that majority of the members were married.

D. Occupation

S. N.	AUTHOR	YEAR	MAJORITY GENDER	CONCLUSION
1	Meena M.S., Jain D. and Meena H.	2008	Labour	As per this research, 100 percent of the members belonged to labour class.
2	Gupta R. and Aggarwal S.	2017	Small Scale Enterprise like Vegetable vendor Tea stall, Milk supplier, Shopkeeper	As per this research, 52 percent were of the members were Small Scale Enterprise.
3	ZaeiM.E., Kapil P, PelekhO. and Nasab A.T.	2018	Non-agricultural labourer	As per this research, 58.8 percent were of the members were Non-agricultural labourer.
4	Rai R. and DevadasanP.M.	2019	House wife	As per this research, 42 percent were of the members were housewives.
5	Kumar C.R. and NayakC.	2021	Housewives	As per this research, 54 percent were of the members were housewives.

From the above, that it can be concluded that majority of the members were either housewives or were non agricultural labour.

E. Income

S. N.	AUTHOR	YEAR	MAJORITY Income	CONCLUSION
1	Meena M.S., Jain D. and Meena H.	2008	30.00 Medium (42-68) 30.00 Medium (42-68) Medium (42\$-68\$)	As per this research 50 percent of the members have income of approximately 42\$-68\$.

2	Gupta R. and Aggarwal S.	2017	Less than 4000 (monthly)	As per this research 52percent were of the members were literate.
3	ZaeiM.E., Kapil P, Pelekh O. and Nasab A.T.	2018	391 US\$–547 US (annual)	As per this research 76.3 percent had an annual income of 391\$-547\$
4	Kumar C.R. and NayakC.	2021	Rs.25000 - Rs.50000 (annual)	As per this research 61 percent were of the members were illiterate.

From the above data we can say that majority of the members come in between low and medium income.

F. Social Empowerment

S. N.	AUTHOR	YEAR	CONCLUSION
1	Satyveer, Meena S.S., Sharma M. and Kumar D.	2015	The study opined that the formation of SHG in rural areas resulted in the increased self-confidence, communication skill, and enhanced decision-making skills.
2	Saravanan M.	2016	As a result of association with the SHG, the social empowerment of women has resulted in increased self-confidence, self-esteem, respect, increased involvement in decision-making, awareness and access to organizations.
3	Sahoo P. and Sahoo R.K.		SHGs are more dominant by tribal women, so their joining in SHG magnify socio-economic condition of their family as well as social development, self-esteem and capacity building. As Women SHG plays a vital role for helping their families as well as development of nation also they are the main indicator for development of child education.
4	Bai H.M.	2019	SHGs help the members to improve the social conditions in terms of standard of living, women literacy level, decision making, participation of social awareness programs, participation in training programs, participation in political activities, etc.
	Rathod N. and Devi G.	2019	SHGs are responsible for significant positive change in the social conditions of the members. Considering the positive impact the study advocated that the appropriate steps should be taken to bring greater SHG network in tribal rural areas by making the people aware about the benefits of the micro-finance made available through SHGs.

From the above data we can conclude that SHG's have been significantly beneficiary for women as it empowered that increases their self confidence, self esteem and say in the family and society.

Key Findings of the Study (Majority)

- The majority age group of SHG members is 31- 35 years.

- The majority member are literate and have completed their primary and senior secondary education.
- 90 percent of the members are married.
- The majority of the members are a part of low and medium income group.
- SHG's have led to social empowerment. This is evident from increased self-confidence, self-esteem, respect, increased involvement in decision-making and increased participation in the training programmes.

Conclusion

In recent years, the effect of microcredit on self-help group (SHG) members has drawn attention, especially in the context of poverty alleviation and promoting socio - economic empowerment. This paper sought to investigate and assess the effects of microcredit on SHG members from a thematic standpoint, taking into account demographic elements like age distribution and level of education.

The study concludes that microcredit, when used through self-help groups, is a critical component in enhancing the income levels and promoting social empowerment. Financial services allow SHG members to start microbusinesses, engage in income-generating activities, and generally enhance their quality of life. In addition to addressing economic problems, microcredit programmes promote social development by helping its participants become more independent, self-reliant, and confident.

According to the research on demographic parameters (such as age composition, a sizeable number of SHG members are between the ages of 31 and 40 years), income (most of the members of the SHG are between the low and middle income level) and social empowerment factors (such as self esteem, self confidence say in the family etc). This indicates that microcredit programmes are available to and pertinent to people in this age group, giving them chances to start and grow their enterprises, provide job possibilities, and enhance their financial well-being.

It is clear from a thorough assessment of the research that SHGs have had a beneficial influence on the lives of its members. Microcredit has considerably helped women in particular since it has increased their ability to participate in productive activities, make decisions, and earn money each month. SHGs have also given women a platform for empowerment, creating community, camaraderie, leadership growth, and a sense of self.

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Chapter-6

A Study on the Effect of Adoption of Green Marketing Practices on the Development of a Sustainable Business Model in India: Case of Tata Motors

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Abstract

Falling in line with the Sustainable Development Goals and achieving their corporate social responsibility, businesses are turning towards sustainable business models.

A sustainable business model justifies how a business creates, delivers, and accumulates value in an environmentally, socially, culturally, or other sustainable way. The development of a sustainable business model is a creative aspect of a business's strategy. Many industries and businesses have used the concept of sustainable business models to simultaneously pursue their social, environmental, and economic goals. For the same adoption of green marketing techniques is increasingly becoming a popular tool. Green Marketing, also alternatively known as environmental marketing and sustainable marketing, refers to a business's efforts at designing, promoting, pricing, and distributing products that will not harm the environment.

In light of the above the study assumes the following objectives, to discuss the role played by green marketing in the development of a sustainable business model, especially in the context of Tata Motors, and to understand the correlation between greenhouse gas emissions and total revenue of Tata Motors.

To achieve the objectives; the Study uses Descriptive Exploratory Analysis. The study has utilized secondary data sources mainly from the Annual reports of Tata Motors. The time period of the study is 2016-17 to 2021-22. The main Methods used include ratios and growth rates and tools for the estimation of correlation. The variables used include the public publication of specific Green House Gas emission intensity (tco2e/vehicle produce) and total revenue (in Rs. crores) of Tata Motors.

The study is expected to yield the outcome that green marketing is an important and useful instrument for developing a sustainable business model. It is expected that there will be a positive correlation between the adoption of green marketing techniques and the growth of a business.

Key Words: Green Marketing, Sustainable Business Model, Sustainability, Tata Motors, CO₂ emissions.

Introduction

In this fast-moving world, we are going towards a future which is uncertain and very harmful for our health because as we are innovating new technologies and making our life easier and not caring about the environment. Climate change and global warming are becoming the biggest problem for our future. Most of the pollution and CO₂ emission is due to the use of fossil fuel in the transportation and in production process. According to International Energy Agency, CO₂ emission from energy combustion grew by around 1.3% or 423Mt in 2022. With the increase in economic activities our dependence on the fossil fuel based energy sources and consequent greenhouse gas (GHG) emission have increased rapidly in recent time. Due to globalization and liberalization these activity boost up to the next level.

To address all these problem countries and companies are following sustainable development. Sustainable development is the best way to meet the need of present without compromising the future need. To achieve the goal of sustainable development companies are adopting different ways and green marketing strategy is one of the strategy that the company is using in sustainable development. As the word suggest, green marketing strategy is a practice of producing and promoting those product which are sustainable and environmental friendly. Under the green marketing strategy companies are required to use all those option in process of production as well in promotion which are safe for environment and generate minimum or negligible pollution. There are many companies in India as well which are following green marketing strategy and able to contribute for the environment to achieve sustainable development goal.

Tata motors is one of the company in that area which are practicing green marketing strategy and also publishing their reports in their annual reports about the achievement related to environment. India is the fifth largest global car manufacturer and vehicular emission is the major cause of air pollution in urban areas. But with the change in technology companies are coming with the innovative option to make vehicle more eco- friendly and in this sector companies are now using green energy to run the production

process as well to run the vehicle and in India now many companies along with Tata Motors are producing e-vehicle.

The purpose of the research is to study that the practicing green marketing strategy is helpful in financially as well as non-financially for the company. Because it is very important for the company that the green marketing strategy will not affect them negatively in form of decrease in sale or decrease in revenue. So, in case of Tata motors, we will study that what is the impact of adopting green marketing strategy by a business model in India.

Literature Review

Mishra, P., & Sharma, P. (2014). Green marketing: Challenges and opportunities for business. *BVIMR Management Edge*, 7(1).

According to this research paper, green marketing strategy is essential for every business to reduce the pollution because green marketing provide us the sustainable way to produce and promote the product in the market. Green marketing should become compulsory for all type of business as it is important for the reduction of greenhouse gas emission. And companies have the responsibility to provide the customer a green option in the market at the very reasonable price. Because if we want to fight with the global warming, we need to take action by adopting green marketing strategy. And for the business, green marketing strategy will become profitable in the long run.

Eneizan, B. M., Abd-Wahab, K., & Obaid, T. F. (2016). Effects of green marketing strategy on the financial and non-financial performance of firms: A conceptual paper. *Oman Chapter of Arabian Journal of Business and Management Review*, 34(3796), 1-14.

According to this paper, companies which are following and adopting the green marketing strategy are expected to earn more profit than those company which are not practicing green marketing strategy. Under this research paper they analyzed several green marketing factors like green products, green price, green process, green distribution, green promotion, green physical evidence and these factors indicated that the green marketing strategy will affect positively on the financial and non-financial performance of firms,

Arseculeratne, D., & Yazdanifard, R. (2014). How green marketing can create a sustainable competitive advantage for a business. *International business research*, 7(1), 130.

According to this paper, green marketing strategy brings so many benefits in the business which will help the company for taking competitive advantage from the rival firm. The benefit can be in the form of reduction in the cost of production, displaying a positive image in the market, helping in positioning of product in the mind of customer due unique and environmentally friendly strategy. But green strategy may become vulnerable to finance orientation and green selling. So the success of adopting green marketing strategy is highly dependent upon the contribution made by different stakeholders of business.

Mani, A. P., & Bhandari, S. (2019). Green Marketing–Practices and Challenges in the Indian Context. *Journal of Graphic Era University*, 170-175.

According to the paper, green marketing is still in the initial stage and it take little bit more time to boost up in all the companies. Because many companies do not want take risk by adopting this strategy. Because it needs lots of research and development, and technology which need lots of finance. And also, many customers don't want to pay extra for the green product which make problem for the company.so it is necessary that the company will promote more and more green products. Each and every company should have to take the responsibility to fight with the global warming by adopting green marketing strategy.

Objectives

To discuss the role played by green marketing in the development of a sustainable business model, especially in the context of Tata Motors.

To understand the correlation between greenhouse gas emissions and total revenue of Tata Motors.

Methodology

To achieve the objectives; the Study uses Descriptive Exploratory Analysis. The study has utilized secondary data sources mainly from the Annual reports of Tata Motors (<https://www.tatamotors.com/wp-content/uploads/2018/09/05090438/sustainability-report-2017-18.pdf>, <https://www.tatamotors.com/wp-content/uploads/2019/07/05155543/TML-IR-AR-2018-19.pdf>, <https://www.tatamotors.com/wp-content/uploads/2020/08/03045333/annual-report-2019-2020.pdf>, <https://www.tatamotors.com/wp-content/uploads/2021/06/28075755/annual-report-2020-21.pdf>. <https://www.tatamotors.com/wp-content/>

uploads/2022/06/annual-report-2021-22.pdf, <https://www.tatamotors.com/wp-content/uploads/2017/08/01105648/annual-report-2016-17.pdf>).

The time period of the study is 2016-17 to 2021-22. The main Methods used include ratios and growth rates and tools for the estimation of correlation. The variables used include the public publication of specific Green House Gas emission intensity (tco2e/vehicle produce) and total revenue (in Rs. crores) of Tata Motors. SPSS was used as the main tool of analysis.

Analysis

Tata Motors is one of the leading companies in adopting and implementing green marketing techniques. Its techniques are clearly visible from its clear publication of specific Green House Gas emission intensity in its annual reports yearly.

Table 1: Showing Specific ghg emission intensity, Total revenue, total vehicles sold and total emissions of Tata Motors from 2016-17 to 2021-22

Year	Specific ghg emission intensity (tco2e/vehicle produce)	Total revenue (Rs. Crore)	Vehicle sold	Total emissions (tco2e/vehicle produce)
2016-2017	0.741	2,74,492	11,57,808	857935.728
2017-2018	0.71	2,94,243	12,21,124	866998.04
2018-2019	0.69	3,04,904	12,74,074	879111.06
2019-2020	0.69	2,61,068	9,61,463	663409.47
2020-2021	0.59	2,49,795	8,37,783	494291.97
2021-2022	0.49	2,78,454	10,86,734	532499.66

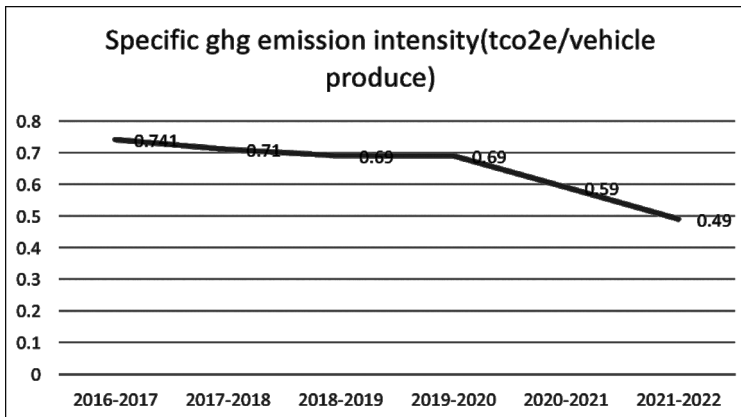


Fig. 1: Showing Specific ghg emission intensity(tco2e/vehicle produce) of Tata Motors from 2016-17 to 2021-22

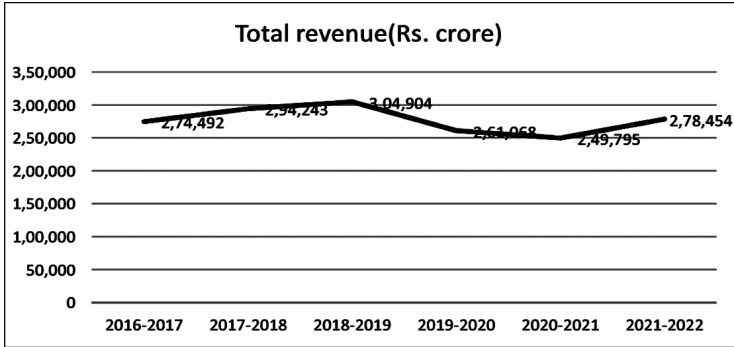


Fig. 2: Showing Total revenues (Rs. Crore) of Tata Motors from 2016-17 to 2021-22

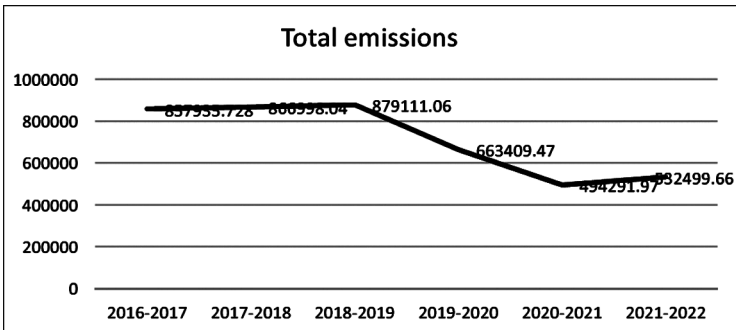


Fig. 3: Showing Total emission of Tata Motors from 2016-17 to 2021-22

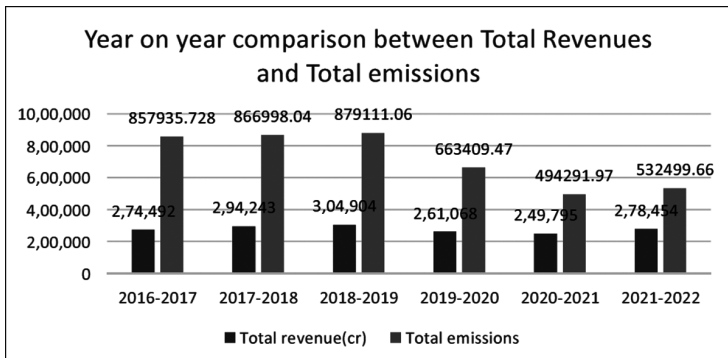


Fig. 4: Showing Year on year comparison between Total Revenues and Total emissions of Tata Motors from 2016-17 to 2021-22

As it can be observed from the graphs that specific ghg emission intensity (tco2e/vehicle produce) show a continuous decline over the chosen time period (Fig 1). As far as the total revenue (Rs. crore) are concerned there has been a continuous rise from 2016-17 to 2018-19, then from 2018-19 to 2020-21 there was decline which could be due to coming of the Covid-19

pandemic (Fig 2). Post 2020-21, the revenues have shown a rise again, marking the recovery of Tata Motors. The total emissions have shown a declining trend throughout the period of the study (Fig 3). When Total Revenues and Total emissions were compared it was observed that both show a declining trend (Fig 4).

The minimum value of Total revenue was 249795 Rs. Crore and the maximum value was 304904 Rs. Crore, with the standard deviation of 20386.990 Rs. Crore. The minimum value of Total Emissions was 494292 tco2e and the maximum value was 879111 tco2e, with the standard deviation of 176149.626 tco2e (Table 2).

Table 2: Showing the descriptive statistics of Total revenue and total emissions of Tata Motors from 2016-17 to 2021-22

Descriptive Statistics							
	N	Range	Mini- mum	Maxi- mum	Mean	Std. Devia- tion	Variance
Total Revenue	6	55109	249795	304904	277159.33	20386.990	415629354.267
Total Emissions	6	384819	494292	879111	715707.65	176149.626	31028690651.714
Valid N (listwise)	6						

Total Revenue and total emissions show a strong positive correlation (0.746). This means that the green marketing strategy of reduction in Greenhouse gas emission has an overall positive impact on the total revenues over the period of 2016-17 to 2021-22 (Table 3).

Table 3: Showing the correlation between Total revenue and total emissions of Tata Motors from 2016-17 to 2021-22

Correlations			
		Total Revenue	Total Emissions
Total Revenue	Pearson Correlation	1	.746
	Sig. (2-tailed)		.088
	N	6	6
Total Emissions	Pearson Correlation	.746	1
	Sig. (2-tailed)	.088	
	N	6	6

Conclusion

The findings of this research helps us to reach at a conclusion about the relationship between the greenhouse gas emission and the revenue of TATA motor company. By adopting green marketing strategy a company can reduce greenhouse gas emission without affecting their revenue. That means companies can adopt green marketing strategy without any much fear regarding decrease in their revenue in future and can help in making a sustainable future for our upcoming generation.

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Examining Socio-Economic Inequalities in Educational Choices in Higher Education Institutions

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Abstract

In recent years, India has made significant progress in providing access to education across the nation. Based on World Bank report, from 2004-05 and 2018-19, the number of school-going children increased from 219 million to 248 million. Similarly, student enrolment in higher education in 260 colleges was 8.8 million in 2001-02 and witnessed a four-time increase to 37.4 million students in 993 colleges in 2018-19. This improvement was augmented with many policy interventions that helped to reduce gender inequality, geographical disparity, and social inequality. Despite progress in numbers, India's educational attainment in terms of opportunities and choices is lagging behind when compared to other countries. In particular, the women, marginalised community, minority groups, and poor families of all groups, specifically the rural poor experience unequal access to participation in higher education. A matter of concern here is whether this massification has improved or widened the access to education for under-represented groups, regions, poor and non-poor.

The education system was designed to ensure equal participation and access to all irrespective of their socioeconomic background. But from the literature is it observed that educational choices of students are primarily based on their socio-economic factors leading to less student diversity in different courses such as science, arts, social science and engineering. To move towards an 'inclusive' form of education it is necessary to reduce the inequalities to have more participation from diverse backgrounds. This goal of inclusive, equitable, quality education and lifelong learning opportunities is Goal four of the Sustainable Development Goals (SDGs), 2030 formulated by the United Nations (UN). With use of secondary sources of data, this paper is an attempt to present the unequal access and participation of

students in higher education which urgently needs to be addressed and also puts forth some measures to progress towards inclusive education and reduce inequalities.

Keywords: *massification, inequalities, diversity, course selection, inclusiveness.*

Introduction

In recent years, India has made significant progress in providing access to education across the nation. During the years 2004-05 and 2018-19, the number of school-going children increased 219 million to 248 million (World Bank, 2021). Similarly, the enrolment of students in higher education in 260 colleges was 8.8 million in 2001-02 and witnessed a four-time increase to 37.4 million students in 993 colleges in 2018-19 (Shamika, Gupta & Nagaraj, 2019). Over the last seven decades, many policy interventions have been implemented to reduce gender inequality, geographical disparity, and social inequality (Varughese & Bairagya, 2020). Despite progress in numbers, India's educational attainment in terms of opportunities and choices is lagging behind when compared to other countries. In particular, women, Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward Classes (OBC), Muslim minority groups, and poor families of all groups, specifically the rural poor suffer and experience unequal access to participation in higher education (Thorat, 2016). A matter of concern here is whether this massification has improved or widened the access to education for under-represented groups, regions, poor and non-poor.

The education system was designed to ensure equal participation and access to all irrespective of their socioeconomic background. But it is observed from the studies that the educational choices of students in India are primarily based on their socio-economic factors which lead to less student diversity in different courses. To move towards an 'inclusive' form of education it is necessary to reduce the inequalities to have more participation from students of diverse backgrounds. This goal of inclusive, equitable, quality education and lifelong learning opportunities is Goal four of the Sustainable Development Goals (SDGs) formulated by the United Nations (UN) visioned for 2030 (United Nations, n.d.).

Review of Literature and Methodology

Conceptualising Choices

Several theories help to conceptualise the concept of choice. Such choices can be voluntary or obligatory, individual or shared and may even be objective or subjective. For instance, the rational choice theory mentions

that a person's social acts are rational but the rationality behind it may vary (Coleman,1990). Various studies have shown that numerous factors affect educational choices i.e., geographic factors (Gulosino & Yoon, 2020), social-economic status (Auðardóttir & Kosunen, 2020), gender issues (Chanana,2000), perception of parents on teaching and learning (Lahoti & Mukhopadhyay, 2020). Not only this other factors like peer pressure, family circle, advice from teachers or mentors and even expected returns from education. These multiple factors shape the choice of the student's stream in higher education.

Thus, the objective of this paper is to show that there exists unequal access and participation of students in higher education which urgently needs to be addressed. Secondary sources of data have been used to present this paper, which includes sources like AISHE annual reports, UGC annual reports, other relevant reports and research papers. It also puts forth some measures so that the education system can experience progress towards inclusive education and suggest ways to reduce the inequalities.

Data analysis and Discussion

Inequalities and Trends in Educational Choices

The country's literacy rate is 74.04 percent where 82.14 percent is for males and 65.46 for females (Census,2011). Inequalities mean that certain segments of the population are discriminated against in terms of accessing resources. Literacy levels in rural and urban areas have declined but it is still high in rural areas when compared to urban areas. Moreover, this inequality is higher among females. (Pathania,2020). This highlights a major inequality in education i.e., gender inequality. Inequality in education is found with reference to individuals, social classes, geographical location, racial class, regional inequality, religion inequality, socioeconomic background and others.

Table 1 shows that over the years there has been an improvement in the enrolment of SC and ST students but they still lag behind the enrolment of the general population. It is interesting to know that SC females outnumber SC males. It shows an enhancement in Gender Parity Index (GPI). Despite the improve in GPI, the streams or choice of courses show more representation of men.

Table 1: Gross Enrolment Ratio (18-23 years), (2019-20)

Year	All categories			SC students			ST Students		
	Both	Male	Female	Both	Male	Female	Both	Male	Female
2013-14	23.0	23.9	22.0	17.1	17.7	16.4	11.3	12.5	10.2
2014-15	24.3	25.3	23.2	19.1	20.0	18.2	13.7	15.2	12.3
2015-16	24.5	25.4	23.5	19.9	20.8	19.0	14.2	15.6	12.9
2016-17	25.2	26.0	24.5	21.1	21.8	20.2	15.4	16.7	14.2
2017-18	25.8	26.3	25.4	21.8	22.2	21.4	15.9	17.0	14.9
2018-19	26.3	26.3	26.4	23.0	22.7	23.3	17.2	17.9	16.5
2019-20	27.1	26.9	27.3	23.4	22.8	24.1	18.0	18.2	17.7

Source: All India Survey on Higher Education

Table 2: Distribution of Gender in different courses (in %)

Course	Engineering and Technology (PG level)	Engineering and Technology (UG level)	Arts (PG)	Arts (UG)	Social Science (UG)	Social Science (PG)
Male	64.8	70.7	44	47	47.5	41.7
Female	35.2	29.22	56	53	52.4	58.3

Source: Calculated from AISHE report 2019-20 (includes public and private institutions of higher education)

As shown in Table 2 The enrolment of students in the post-graduate level in Engineering and Technology courses exhibit more male students i.e., 64.8 percent and females were only 35.2 percent. For the same course, at the undergraduate level, about 70.7 percent were males and only 29.22 females opted for these courses. In the case of arts stream, at the postgraduate level, 44 percent of the students enrolled are male student and about 56 percent of the students are female. At the undergraduate level, 47 percent of male students were enrolled while the remaining 53 percent enrolled were females. The social sciences courses at the PG level show higher representation of females with 58.3 percent and males at 41.7 percent. A similar trend was observed for the social sciences stream wherein, 47.5 percent were male students and 52.4 percent were female students. In the mode of regular doctoral programme, it was observed that for the General population, SC and ST population, the participation of males was higher than females. The male's percentage was 54.8 percent, 60.7 percent and 56.7 percent and for females, it was 45.2 percent, 39.3 percent and 43.9 percent respectively for General, SC and ST students (Ministry of Education, 2019-2020). Undoubtedly there has been a progress in the literacy and

education engagement of women in India but the data also show that there is gender disparity in technical courses and higher education. Furthermore, women were found to be enrolled in non-technical courses like arts and social sciences. This makes us want to know why science, technology is considered to be masculine while arts and social sciences to be feminine? Why are technical subjects male oriented than female? Families might be less willing to support the graduation of female children when compared to their male children (Lang, 1984). This finding is relevant even in today's scenario because the non-technical courses have lesser expenditure when compared to the technical courses which require lab and computer provisions. The cost of education for technical courses increases. It is easier for students from low-income families to enrol and opt for these courses and especially girls. The disciplinary choices and social category enrolment for men and women were highlighted to observe the trend of participation of women at the UG, PG and Research levels. An under-representation of women is evident across various social categories as well. Moreover, in the case of level-wise distribution in distance education, post-graduation level courses and Ph.D. level, the enrolment of female students increased.

Some reasons for gender inequalities are that female student are always viewed with the worry of marriage and heavy expenditure on dowry. This is a major reason which makes daughters to be sent less likely to colleges than sons. Women. Many women are also first-generation learners and also do not have role models in their families to look up for academic motivation. Further, the counselling provisions for choice of subject and career opportunities is not available in colleges and universities. The lack of awareness also limits their choice. This lack of awareness also leads to limited choices (Chanana, 2000). What is a matter of concern here is, do women discontinue their education after every stage? Or they shift to the distance education format of education. There is a need to have database to know the career of the women after each stage. Thus, due to lack of data it is difficult to reflect on some aspects without concrete evidence.

India is unable to reach its fullest potential due to poor rural schools, language problems and the presence of a caste system. Outside the cities, higher education, including science is considered education for the rich, influential, politically powerful individuals and those of upper castes. Students from the marginalised background have many psychological barriers and feel inferior to others (Nature, 2016). A student's socio-economic disparity of those of lower caste and tribes is reflected in their disciplinary choices where the SCs and STs are less represented in high levels of education,

professional courses and programmes it needs high investment for a long time (Chanana,2000). The location of the college is a criterion for the selection of the B-school (Biswas & Pamucar, 2020). Not only this, even language is a barrier in course selection. Due to this, although the students from weaker sections of society are involved in the learning process, they experience a feeling of exclusion (Bali,2021). Other than this, increasing cost of education, debt burdens, particularly for low-income group students and first generation learners makes education burdensome (Rahman et.al.,2022).

Implication and Conclusion

Education inequality reduces the quality of human capital and also impacts the development of the country. Women still lag behind men in several arenas of education. There have been ongoing efforts to restructure the education system. The existing disparities are existing due to the historical, cultural and societal impact of the society. Such deep rooted issues take time to change and also very challenging to eliminate. The National Education Policy,2020 has focused more on multi-disciplinary education which will now help to witness a change in the course selections. The choices made by students in their higher education provide a significant base for the various stakeholders and policymakers. The course selections also show the inequalities based on gender, caste, regions etc. There is a need to create awareness among the students and their families to remove the stereotypes linked with courses. The beliefs that low grades students are incompetent and not eligible for some courses should not be spread. Low grades are not always a measure of intelligence but can also be if the student is engaged in work to finance his studies. This means that there is a need to reform the recruitment practices so that it allows a greater number of students to participate in recruitment drives. To sum up, education is the right of each individual and s/he has the choice to pursue whatever course s/he likes.

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Chapter-8

Study of Few Cases to Understand the Influencer Marketing

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Abstract

Influencer marketing is a popular marketing strategy that involves partnering with individuals who have a large following on social media platforms to promote a brand or product. This research paper aims to provide a comprehensive overview of influencer marketing, including its definition, benefits, challenges, and future prospects.

It also explores the different types of influencers, the factors that brands should consider when selecting influencers, and the ethical considerations involved in influencer marketing. The research draws on existing literature, case studies, and industry reports to provide a thorough analysis of influencer marketing.

Introduction

Influencer marketing is a marketing strategy that involves partnering with individuals who have a significant following on social media platforms to promote a brand or product. Influencers are people who have established themselves as authorities in specific niches and have built a loyal following of fans who trust their opinions and recommendations.

Influencer marketing has become increasingly popular in recent years, with the rise of social media platforms like Instagram, TikTok, and YouTube. 63% of marketers plan to increase their influencer marketing budget in 2021, according to a survey by Influencer Marketing Hub.

Types of Influencers

There are several types of influencers, each with its own unique characteristics and benefits.

The most common types of influencers are:

Mega-Influencers: These are individuals with a massive following of more than one million on social media platforms. They are often celebrities, athletes, or politicians and can reach a broad audience.

Macro-Influencers: These are individuals with a following of between 100,000 to one million on social media platforms. They are often industry experts or niche bloggers and can reach a more targeted audience.

Micro-Influencers: These are individuals with a following of between 1,000 to 100,000 on social media platforms. They are often everyday people who have built a loyal following in a specific niche.

Nano-Influencers: These are individuals with a following of fewer than 1,000 on social media platforms. They are often friends or family members of the brand who can provide authentic and relatable content.

Objective of the Study

1. To assess effectiveness of influencer marketing by analyzing metrics such as engagement rates, click-through rates, and sales
2. Analyzing successful influencer campaigns to identify best practices.
3. To understand how influencer marketing affects consumer behavior by analyzing survey data.
4. To analyze consumer perceptions and evaluating disclosure impact on influencer campaigns.
5. Analyzing data to identify trends in influencer marketing..

Need and Scope of the Study

Influencer marketing has become increasingly popular, but it requires understanding how it works, how effective it is, and what factors contribute to its success. Influencer marketing is constantly evolving, so a study can help brands and marketers stay up-to-date with new platforms, technologies, and trends. More research is needed to understand the impact of influencer marketing on consumer behavior and brand outcomes. A study on influencer marketing can help brands identify best practices for working with influencers and to stand out in a crowded market. A study on consumer skepticism of influencer marketing can help brands build trust and authenticity in their campaigns. The scope of a study on influencer marketing will depend on the research question and data sources available to the researcher. It may

involve analyzing metrics, conducting surveys, focus groups, or analyzing case studies of successful influencer campaigns.

Evolution of Influencer Marketing

Influencer marketing was a new concept in the early days of social media, with little emphasis on authenticity or engagement.

These early campaigns were often one-off promotions with little long-term impact.

Micro-influencers emerged as social media platforms became more popular, providing brands with more authentic connections with their followers.

These influencers had smaller followings but highly engaged audiences, making them more effective than celebrities.

Brands began to prioritize authenticity and transparency in influencer marketing, focusing on genuine connections with audiences and being transparent about partnerships and sponsored content.

Brands are shifting towards targeting niche audiences, instead of working with large influencers, to focus on micro-influencers who have highly targeted audiences in specific niches.

AI technology is revolutionizing influencer marketing, allowing brands to identify and analyze the impact of their campaigns in real-time.

Influencers are leading the way in the growth of video content on social media, with brands partnering with them to create engaging content

Challenges of Influencer Marketing

While influencer marketing offers several benefits, it also poses some challenges, including:

Cost: Partnering with influencers can be expensive, particularly for mega-influencers and macro-influencers.

Lack of control: Brands have limited control over the content that influencers create, which can be a challenge if the content does not align with their brand values or messaging.

Fraudulent activity: Some influencers engage in fraudulent activity, such as buying fake followers or engagement, which can undermine the effectiveness of influencer marketing campaigns.

Research Methodology

Research methodologies used in studies on influencer marketing vary depending on the research question and data sources.

Surveys are a common research methodology used in influencer marketing studies to collect data on consumer attitudes and effectiveness.

Case studies are used to analyze successful influencer campaigns and identify best practices for working with influencers.

Content analysis is a methodology used to identify trends in influencer marketing, such as the types of content that perform well or the use of hashtags or keywords.

Experimental design is a methodology used to test hypotheses about the effectiveness of influencer marketing by running A/B tests or other experiments.

Interviews and focus groups can be used to collect qualitative data on consumer attitudes towards influencer marketing.

This research study examines the impact of influencer marketing on consumer behavior and purchase intentions using a mixed-methods approach, including qualitative and quantitative data collection and analysis.

Research Design:

The research design for this study will be a mixed-methods approach, including qualitative and quantitative research methods. It will begin with a comprehensive review of existing literature on influencer marketing, including academic journals, industry reports, and case studies.

Research Questions and Hypotheses:

1. The research questions for this study are:
2. What is the impact of influencer marketing on consumer behavior and purchase intentions?
3. What types of influencer marketing strategies are most effective for different products and target audiences?
4. What are the key factors that influence consumer engagement with influencer content?

The hypotheses for this study are:

1. Influencer marketing positively impacts consumer behavior and purchase intentions.

2. Micro-influencers are more effective for niche products and target audiences than macro-influencers or mega-influencers.
3. The relevance, authenticity, and credibility of an influencer are the most critical factors in influencing consumer engagement with influencer content.

Data Collection

The data collection for this study will involve both qualitative and quantitative research methods. The qualitative data collection will consist of in-depth interviews with consumers who have engaged with influencer marketing campaigns, conducted using a semi-structured format. The quantitative data collection will consist of a survey of consumers who have engaged with influencer marketing campaigns, distributed online using social media platforms and email lists.

Data Analysis

Data analysis for this study will involve both qualitative and quantitative methods. Qualitative data analysis will involve thematic analysis of interview transcripts to identify common themes and patterns, while quantitative data analysis will involve descriptive statistics and inferential statistics to test hypotheses.

Case Studies

Here are some case studies on influencer marketing that demonstrate different approaches and strategies:

Daniel Wellington: This watch brand collaborated with influencers on Instagram to promote their products. They provided influencers with free watches in exchange for posts featuring the product, and the campaign was incredibly successful, with the brand's sales increasing dramatically as a result.

Glossier: Glossier used micro-influencers to promote their products on Instagram. They identified influencers who were already using their products and had a small but engaged following, and provided them with free products to promote. This strategy was highly effective in reaching a niche audience and building a loyal following.

Fabletics: Fabletics, an activewear brand, partnered with influencer Demi Lovato to launch a collection of clothing. Lovato promoted the collection

on her social media channels, and the campaign was highly successful, with the collection selling out in just a few days.

Dunkin' Donuts: Dunkin' Donuts partnered with influencer Casey Neistat to create a promotional video featuring the brand's new cold brew coffee. The video was highly engaging and went viral, reaching millions of viewers and generating a significant increase in sales.

Hello Fresh: HelloFresh, a meal delivery service, partnered with a number of influencers on YouTube to promote their products. The influencers created recipe videos featuring HelloFresh ingredients and included a discount code for viewers to try the service. The campaign was highly effective in driving conversions and increasing brand awareness.

Case Studies of India

Myntra's "10 on 10" campaign: Myntra, an online fashion and lifestyle retailer, launched a campaign featuring 10 popular fashion influencers who shared their top 10 picks from Myntra's collection. The campaign resulted in a 300% increase in traffic and a 400% increase in sales on the day of the launch.

L'Oréal's #BoldInGold campaign: L'Oréal, a beauty brand, collaborated with several popular beauty influencers to promote their Gold Obsession lipstick collection. The influencers created makeup tutorials and shared them on social media using the hashtag #BoldInGold. The campaign resulted in a 75% increase in sales of the Gold Obsession collection.

Flipkart's Big Billion Days sale: Flipkart, an e-commerce platform, collaborated with several influencers to promote their annual Big Billion Days sale. The influencers shared their shopping hauls and recommended products from the sale on their social media handles. The campaign resulted in a 2x increase in the number of orders and a 3x increase in the number of app downloads.

Pepsi's #HarGhoontMeinSwag campaign: Pepsi collaborated with several popular Bollywood celebrities to promote their new tagline "Har Ghoont Mein Swag". The celebrities shared videos on social media, in which they were seen enjoying Pepsi and showing off their swag. The campaign resulted in a 7.5% increase in sales for the brand.

Amazon's #DeliverTheLove campaign: Amazon collaborated with several parenting and lifestyle influencers to promote their "Deliver the Love" campaign, which focused on delivering gifts to loved ones during the festive season. The influencers shared their personal stories and experiences

of using Amazon's delivery services. The campaign resulted in a 2.5x increase in sales for Amazon's gifting category.

Literature Review

Influencer marketing is a popular form of marketing where business collaborate with individuals with a large social media following to promote their products and services. This literature review will provide an overview of its effectiveness and challenges.

One of the earliest studies on influencer marketing was conducted by brown and hayes (2008) who found that celebrity endorsements have a positive impact on brand attitude and purchase intention, laying the foundation for future research on influencer marketing.

A study by Jin and Phua (2014) explored that social media influencer's trustworthiness, expertise and attractiveness have a positive impact on consumer purchase intention.

Another study by Lee and Watkins (2016) identify that influence the marketing faces challenges such as lack of control over content, authenticity of influencers and fit between the influencer and brand. These factors are essential for success.

A study by Gupta and Stephen (2017) found that influencer marketing is an effective tool for brand awareness and celebrity, but its effectiveness is dependent on the fit between influencer and the brand, content quality and engagement.

Another study by HSU and Lin (2018) examined that influence the marketing has a significant impact on consumer purchase intention due to perceived authenticity, credibility and usefulness of the content.

These studies have shown that influencer marketing has become increasingly popular due to its perceived authenticity and credibility, fit between influencer and brand, quality of content and level of engagement.

Analysis

For this research specifically, we had circulated a questionnaire. In that questionnaire we had added some questions who reflects the power of influencer marketing in today's world. Let's check its analysis together: So, starting with some demographic questions in the beginning

First one is the gender which is quite clear that males and females have almost equal ratio in participation in this.

Then let's come to age groups so here clearly see that the people between age 18-25 years that is basically the youth. Here the youth is so much indulging into the influencer marketing by making content or by watching them. Its quite obvious that all the respondents are Indian and everybody is on social median these days. I think only 1 out of 100 is not using social media in today's world.

Okay, lets come to the main point so like half of the people have an average of 200-500 followers on Instagram these days and this is so very common I don't think there is anything wrong in this until and unless you are going in a right direction.

Also, by analyzing the next one we can say that people do follow so many influencers according to their interest lines. They can be in the field of sports, fashion and beauty, and the most famous ones the content creators which are the basic targets of the companies to approach when they want to advertise something also in the next one, we can see that people are more into scrolling reels and forwarding them to their friends or family which is quite normal these days.

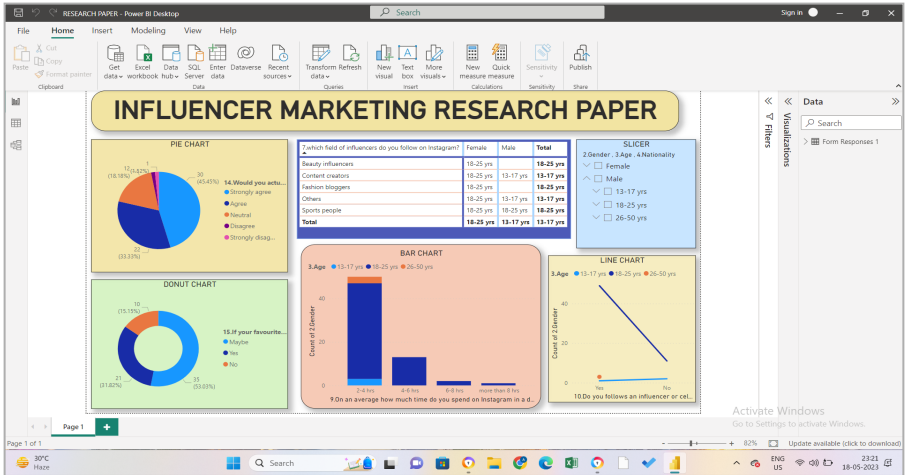
Now, as I was very curious to know the time limits of most of the people using Instagram daily so with this analysis, I can conclude that people are devoting a huge part of their life on social media this is around 2-4 hrs. Everyday which actually means today's youth is spending almost 90 hrs. in a month on social media. That's fascinating.

Basically, they are following every other influencer to observe their lifestyle and other things, actually they are inspiring them because they are earning so much and living a quality life.

And I'm saying this on the basis of analysis of our next question in which influencers are inspiring people, they are the source of our entertainment now-a-days also they are updating us with the trends.

in the next two I can clearly see that how many people are being influenced by them only by watching them on social media applications and they are using those products its basically increasing their engagement as well as the sales of that particular company.

So at end it basically the concept of influencer marketing which I guess is newly introduced in the social media marketing which is on trending now and it is so much hyped that people are literally dying to purchase the products or services which the influencers want them to purchase also it is benefitting the influencers so much. It is like a new career option for youth as every successful influencer is earning so much from this.



Findings

Influencer marketing has been found to be effective in driving brand awareness, engagement, and sales, resulting in increased reach, follower base, and visibility. Influencers who maintain a high level of trust and credibility with their followers are more successful in influencer marketing.

Micro-influencers are becoming increasingly popular due to their higher engagement rates and better audience targeting, making them a cost-effective option for brands. Instagram is the primary platform for influencer collaborations due to its visual nature and large user base, but other platforms such as YouTube, TikTok, and Clubhouse are also becoming popular. Brands should establish clear metrics and goals before engaging influencers and track key performance indicators to measure the effectiveness and success of their campaigns.

Influencer partnerships should adhere to disclosure and transparency guidelines to maintain ethical practices and reduce the risk of misleading advertising practices. Long-term partnerships with influencers can lead to higher trust and better brand integration, cost efficiencies, and improved campaign effectiveness. Brands should conduct research and due diligence to select the right influencers.

Influencers can help brands create authentic and engaging content that resonates with their audience. Staying up-to-date with the latest trends and regulations is essential for brands to ensure compliance, maintain brand reputation, and maximize influencer marketing effectiveness.

Conclusions

Influencer marketing is a powerful strategy for brands to connect with their target audience, build brand awareness, and drive engagement and sales. Studies have shown that it yields positive results, but trust and authenticity are key. Consumers value authenticity and influencers who maintain trust and credibility with their followers deliver better results.

This research report provides valuable insights into influencer marketing, allowing marketers to develop strategies to create impactful and authentic influencer campaigns that resonate with their target audience and drive results.

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Chapter-9

New Social Media Marketing Trends: A Look into Emerging Strategies

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Abstract

Introduction

Social media marketing has evolved rapidly in recent years, with new trends and strategies emerging every year. As businesses continue to navigate the digital landscape, it is essential to stay on top of the latest trends in social media marketing to remain competitive.

Literature Review

Over the last two decades, several articles have paid attention to the emergence of social networking and various aspects of social media marketing. However, social media commerce has gone unnoticed in the literature. Consumers around the globe have become addicted to social media. As they love to spend most of the time in social networking, it is expected that some of their comments and likes would reveal their preference towards a product. Marketers are using social media as a leading sales tool and attracting customer's attention towards social commerce. The results of this study indicate that if taken advantageously social media can be used as an efficient and inexpensive channel of distribution through social commerce.

Methodology

Descriptive study. Primary Data, Secondary data, Self-administered questionnaire, Power BI,

Findings and Discussions

It has been found that the majority of the respondents of the ages of 18-25 and reside in Delhi. They are active on social media platforms such as Instagram, LinkedIn,

and Facebook, and prefer to shop both online and offline. They are influenced by social media conversations of influencers and are somewhat likely to buy a product recommended on social media platforms. The brand's social media presence is very important to them, and they have heard of new social media platforms and features that have emerged in the past year. They find educational or informative posts engaging on social media and consume content by scrolling through their feeds. They think Instagram will be the most popular platform in the next 5 years, and the trend of short-form video content is okay for them. Overall, businesses need to stay on top of emerging social media trends and use platforms like Instagram and LinkedIn to connect with their target audience.

Conclusion

This research paper explores new social media marketing trends and strategies that businesses should consider. We will examine the emergence of new social media platforms, the rise of ephemeral content, the impact of influencer marketing and digital marketing, role of content writing, the importance of social commerce, and the role of augmented reality (AR) in social media marketing, with a brief of the future of social media marketing in India.

Overall, this research paper aims to provide a comprehensive overview of new social media marketing trends and strategies that businesses can leverage to achieve their marketing objectives.

Keywords: *Social Media Marketing, Ephemeral Content, Influencer Marketing, Digital Marketing, Content writing, Social Commerce, Augmented Reality, Future of social media marketing.*

Introduction

Social media marketing has become an integral part of the marketing mix for businesses of all sizes and industries. As new social media platforms and features emerge, businesses must stay on top of the latest trends to remain competitive and engage with their target audiences effectively.

Social media marketing is the use of social media—the platforms on which users build social networks and share information—to build a company's brand, increase sales, and drive website traffic. In addition to providing companies with a way to engage with existing customers and reach new ones, social media marketing (SMM) has purpose-built data analytics that allow marketers to track the success of their efforts and identify even more ways to engage (FutureLearn, 2021).

Over 50% of the world's population use social media platforms. What's more, they spend an average of 2 hours and 25 minutes a day on them. These figures mean that using social media as part of your digital marketing

strategy allows you to target an enormous audience with relative ease. By failing to be active on social media, you could be missing out on thousands of supporters.

One example of the effectiveness of social media is when Vodafone created a new product line to attract an audience of age 16-24. In our open step about social media investment, the Institute of Data and Marketing states that when Vodafone invested in influencer marketing, their content was viewed over 31 million times on social media, and they went from 0% to 31% awareness from their target audience. (Hayes, 2023)

There are many benefits of social media marketing, but its primary purpose is to drive brand awareness and traffic to your website. This ultimately leads to more followers, more customers and more business success. However, there are some other benefits of social media marketing worth mentioning, which we'll detail below.

Social media marketing lets businesses:

- Reach large audiences for a small price
- Keep up with competitors
- Sell products and services on the platform
- Target specific audiences using demographics and hashtags
- Create a sense of community
- Have direct contact with followers and provide customer support
- Analyze brand sentiment

Objectives

1. To explore the emerging trends in social media marketing
2. To study the emergence of new social media platforms, the rise of ephemeral content,
3. To study the impact of influencer marketing and digital marketing on business organizations
4. To study the importance of social commerce, and the role of augmented reality (AR) in social media marketing.

HIGHLIGHTS: Emerging Strategies

Don't just post—participate

In other words, don't just log in once a month to schedule out all your posts. Social media channels are communities. You need to pay attention to who's engaging with your content and engage back—respond to comments,

like, share and comment on their posts, run live streams, post polls and real-time questions to spark discussions, and repost others' content.

Curate your own feed

We're always looking for ways to show up in others' feeds, but we forget that there is value to be derived from our own. Follow your competitors so you can keep tabs on them, get ideas you can adapt to your own strategy, and identify gaps you can fill. Follow influencers to stay on top of trends and educate yourself. Follow brands that share your values or that have great content strategies for inspiration and outside the box ideas. (NEWLANDS, 2017)

Jazz Up Your Profiles with a Diverse Content Strategy

People respond to good imagery, fun TikTok videos, and some exciting podcasts once in a while. Make sure you post regularly and offer truly valuable information that your ideal customers will find helpful and interesting. Your social media pages will likely look bland if all you post and share is text or infographics, so be sure to use other types of media to catch your audience's eye.

This includes:

- How-tos, quick tips
- Local and industry news
- Data and insights
- Polls, questions, contests
- Updates and announcements

It also means making use of the variety of formats social media offers, including images, videos, stories, live streams, online stores, and more.

Use content creation tools

Don't let anyone tell you that Instagram is the most visual social media platform. They all are! If you want to stand out in a person's feed, you need to accompany your posts with attractive visuals—photos, illustrations, text turned into art. Content creation tools like Freepik and Canva have templates and features that allow you to quickly create visuals that look professional, have your logo on them, and are consistent with your brand.

Repurpose, repost, recycle

Social media is a crowded place, so if you want to gain traction with your audience, you need to post great content regularly. The secret to doing this? The three Rs:

- **Repurpose:** Create a Facebook post from a customer review, splice up a blog post into a series of Tweets, distill a case study down into a customer spotlight on Instagram; turn a webinar deck into a carousel post on LinkedIn. The possibilities are endless.
- **Repost:** To be done in moderation, but a great way to fill gaps in your content calendar. Repost on Instagram and retweet user-generated and influencer content. You can also curate content from authoritative sources and share those links in your posts.
- **Recycle:** Post your TikTok videos and Instagram Reels to YouTube; re-share your top-performing blog posts every month to get in front of new followers; add your Facebook Live recordings to your YouTube channel. (NEWLANDS, 2017)

Tell a Story by Going Live.

Yes, your content tells your brand's story, but why not share with your audience what's happening with your company in real time?

Facebook and Instagram, among other platforms, have created live-streaming features that big brands are not yet using to their full potential. To compete with them, start using these live features before they catch on.

Stay consistent

Using social media for marketing enables your business to project your brand image across a variety of different social media platforms. While each platform has its own unique environment and voice, your business's core identity, whether it's friendly, fun, or trustworthy, should stay consistent.

Social Media Platforms:

As new social media platforms emerge, businesses must stay abreast of these developments and evaluate their potential to reach their target audiences. Emerging social media platforms, such as Facebook, Instagram, LinkedIn, twitter, reddit, YouTube, Pinterest, offer unique features and benefits that businesses can leverage to engage with their audiences.

Facebook

Facebook is a social networking site that makes it easy for you to connect and share with family and friends online. Originally designed for college students. By 2006, anyone over the age of 13 with a valid email address could join Facebook. Building a Facebook page for your business is a great way to engage with current and potential customers. It allows you to target specific audiences and advertise to them in a cost-efficient way. When done well, your page can even be used as a tool to build brand love for your business within the Facebook community. (futurelearn, 2021)

- A Facebook page serves as cost-effective exposure for your brand.
- It's a direct way to connect with current and potential customers.
- You can reach your target audience simply and efficiently.
- It allows you to have a mobile-optimized experience.
- Square Marketing and Facebook Insights allow you to see what's working — and what's not.

Today, Facebook is the world's largest social network, with more than 1 billion users worldwide

Instagram

Instagram is a powerful marketing tool for your business. Here's how to make the most of it. Instagram is a popular social media platform that can also serve as a valuable business marketing tool. Create a business account on Instagram, and then use photos, live videos, and hashtags to market your business. Advertise your business through Instagram ads and use the platform's sales function to sell your products. Instagram is a leading photo-based social media platform, but it does more than keep you up to date on your friends' adventures. Influencers and small businesses use Instagram as a tool for audience connection, engagement and sales. Instagram's robust business features are available only if you create a business or creator account. (futurelearn, 2021)

LinkedIn

LinkedIn is the world's largest professional network on the internet. You can use LinkedIn to find the right job or internship, connect and strengthen professional relationships, and learn the skills you need to succeed in your career. You can access LinkedIn from a desktop, LinkedIn mobile app, mobile web experience, or the LinkedIn Lite Android mobile app. A complete

LinkedIn profile can help you connect with opportunities by showcasing your unique professional story through experience, skills, and education. You can also use LinkedIn to organize offline events, join groups, write articles, post photos and videos, and more. (futurelearn, 2021)

Twitter

In the recent few years, Twitter has also become one of the most used social media networks in India. As a social network, Twitter revolves around the principle of followers. When you choose to follow another Twitter user, that user's tweets appear in reverse chronological order on your main Twitter page. (futurelearn, 2021) Tweets are publicly visible by default. Use Twitter for Business:

- Host and participate in Twitter chats.
- Interact with influencers and customers.
- Advertise on Twitter.

Reddit

Reddit is a social news website and forum where content is socially curated and promoted by site members through voting. The site name is a play on the words "I read it." Reddit member registration is free, and it is required to use the website's basic features. For a monthly fee or yearly subscription, redditors can upgrade to Reddit Gold. This service provides a set of extended features not available to nonpaying users. Features of Reddit Gold include access to members-only communities and the ability to turn off sidebar ads. (Stafford, n.d.)

The site is composed of hundreds of subcommunities, known as subreddits. Each subreddit has a specific topic, such as technology, politics or music. Reddit's homepage, or the front page, as it is often called, is composed of the most popular posts from each default subreddit. The default list is predetermined and includes subreddits such as "pics," "funny," "videos," "news" and "gaming."

YouTube

YouTube is a free video sharing website that makes it easy to watch online videos. You can even create and upload your own videos to share with others. Originally created in 2005, YouTube is now one of the most popular sites on the Web, with visitors watching around 6 billion hours of video every month. If you've ever watched a video online, there's a

good chance it was a YouTube video. For example, almost all of the video tutorials on our website are actually YouTube videos. Businesses can use this platform to advertise their products by making short ad clips.

Pinterest

Pinterest is one of the top social media platforms for small businesses. All it takes is a consistent schedule, creative pictures, and a strategy for growing followers on Pinterest. With the right momentum, you'll start to see more traffic and conversions in no time. Pinterest can be a great traffic driver to your site, but it's better suited for some businesses than others. Home decor, cooking recipes, photography sites, and travel are all examples of businesses that can thrive on Pinterest. (NEWLANDS, 2017)

Trends Model-1



Emerging Social Medias

1. True: private communication threads free of targeted ads

Bret Cox launched Mill Valley, California-based social app True in August 2022, hoping to offer users an ads-free, private space.

In the True app, users can communicate using public or private threads. But private threads are True's core offering. Those threads can be between just two people or between hundreds, but the creator of a thread can only invite people into it one by one. No private thread can be found through an online search or even by other users in the app.

Cox says that the app's private threads will never support any ads. The ads currently shown in the public threads are based on the areas of interest indicated by a user when they first download the True app. Cox has also seen creators and bloggers using public threads to advertise their courses, and he hopes this can drive revenue for True in the future

The app now has more than 10,000 users. True recently received \$15 million in funding from Paul Maritz, a former executive vice president at Microsoft (Agarwal, 2022).

2. BeReal: authentic content and creative messaging

Younger consumers are no longer interested in ultra-curated images. BeReal, a photo app that prompts users to post an unedited, unfiltered image once a day, is primarily used by adults between the ages of 18 and 24, according to an August 2022 Statista report. The app has reportedly been installed at least 20 million times.

Founded by former GoPro employees Alexis Barreyat and Kévin Perreau in December 2019, BeReal only allows users to see photos posted by their friends. (Wang, 2023)

“New social apps like BeReal give people more control over who sees what they post, which makes them feel more comfortable sharing things that they might not on Facebook or Instagram,”

Because BeReal explicitly prohibits accounts from using the app for ads, it's forcing brands to find more innovative--and less invasive--approaches to marketing. In May 2022, Chipotle posted a photo of a takeout bag with a reusable promo code scrawled on it. The promo code allowed the first 100 people who saw it to get a free entree. All 100 codes were gone in approximately 30 minutes, according to the daily newsletter company Morning Brew.

3. Mastodon: ad-free decentralized content

Since Elon Musk acquired Twitter for \$44 billion in October 2022, many Twitter users have flocked to Mastodon, an ad-free microblogging platform launched by German software developer Eugen Rochko in October 2016. Rochko says the platform has more than one million active users as of November 2022.

Mastodon's open-source software runs on numerous servers, and the platform comprises thousands of social networks. When users join the platform, they can choose a server that's either open-ended or focused on a specific area of interest. Every server comes with a set of privacy policies, community guidelines, and privacy options. The server hosts delete and filter out content as needed.

Mastodon also has a very conversational environment, so highly promotional content isn't likely to receive much attention. So, brands and business owners that join the platform tend to take a community-first approach rather than a traditional marketing approach, working to genuinely connect with their target audience.

4. Post: meaningful conversations and premium news articles

Noam Bardin, the former CEO of Google subsidiary Waze, launched the beta version of a Twitter alternative called Post in November 2022. One month later, Bardin announced that more than 610,000 people had signed up for the platform's waitlist.

Post aims to foster meaningful, respectful discussions among friends, strangers, leaders, and subject matter experts. But Bardin also plans to launch a news-only feed that will feature articles from premium publishers. This feed will allow users to easily browse the latest news without subscribing to individual media outlets.

Post intends to use micropayments to monetize those news stories and reward highly engaged users but doesn't expect to depend on ads. In a November 2022 interview with the *Evening Standard*, Bardin criticized social media platforms' dependence on advertising. "Many of today's ad-based platforms rely on capturing attention at any cost--sowing chaos in our society, amplifying the extremes, and muting the moderates," he said. (Wang, 2023) "Post is designed to give the voice back to the sidelined majority; there are enough platforms for extremists, and we cannot relinquish the town square to them."

5. Diem: authentic knowledge-sharing and community spaces for women and nonbinary folks

Launched in beta in January 2021, Diem is a privacy-first social search engine that allows women and nonbinary folks to discuss their experiences and share news and information directly with one another. The platform, created by CEO and co-founder Emma Bates, is designed to combat the click-bait headlines and performative content typically produced for this audience. Since launching into beta, Diem has seen over 20,000 pieces of user-generated content shared on the platform -; predominantly on taboo topics pertaining to health, relationships & money, according to Bates. The company has also built an audience nearing 50,000 across its weekly newsletter and social channels, according to Bates. She also reveals that Diem plans to roll out publicly this Spring.

Diem recently launched Diem AI to conversationally answer your pressing, personal, embarrassing, funny, and serious questions.

“When you start a Diem, you’ll receive an AI-generated summary that scrapes the internet and the Diem community for an answer, through a feminine lens, and then supplements that result with real-life anecdotes shared previously in the platform. You can then post your social search to a discover feed for others to add to. Think of it as an elevated Q&A sesh that’s similar to searching the web, but with a built-in network of trusty internet friends,” says Bates (Wang, 2023)

Ephemeral Content:

Ephemeral content is any video content, such as video, images, or gifs, that lasts online for 24 hours before disappearing. Unlike evergreen content (which lasts forever or until the user wishes to take it down and doesn’t depend on seasonality), ephemeral content cannot be found again on social media platforms. Ephemeral content, such as Instagram Stories and Snapchat Snaps, has become increasingly popular in recent years. This trend reflects the desire for more authentic and engaging content that resonates with audiences. Businesses can leverage ephemeral content to share behind-the-scenes glimpses of their operations, showcase new products, and create a sense of urgency and exclusivity.

Features & benefits: Why should brands consider ephemeral content in ad campaigns? (Mialki, 2023)

1. Fear of missing out (FOMO)

One of the most obvious advantages of an ephemeral content strategy is that it elicits an immediate response from viewers — a quick decision

to sign up, purchase, download, etc. The short-lived nature of ephemeral content creates urgency, fueled by the fear of missing out, a powerful motivator of human behavior.

2. Higher engagement

Ephemeral content often allows the user to engage with the brand on a more personal level than other forms of advertising. Some of the best engagement-boosting tactics with ephemeral advertising include:

- Encouraging user-generated content with branded filters, geo-filters, etc.
- Running polls and Q&As where you can ask viewers for their opinions, or encourage them to submit questions.
- Live-streaming videos to communicate with your audience in real time
- Tagging other users and locations to attract more attention

3. Wider reach

Ephemeral ads help increase reach for several reasons:

- Stories appear in a separate feed on all platforms, so it's a way to beat the algorithm and increase reach.
- When users go "live," their followers get a notification, which attracts interested people even if they're not using the app at that exact moment.
- If you influence on Instagram, your stories can appear at the top of the explore page.
- Stories are inherently shareable and visibility-boosting due to their FOMO-inducing nature, and it only takes a single tap for viewers to send someone's Story to another person.

4. Builds trust

Since today's consumers are bombarded with well-polished content encouraging them to buy products or services, they crave authenticity, personality, and rawness. Ephemeral content makes your brand feel more humanized and relatable because it's more informal and spontaneous. This helps your followers gain a greater sense of excitement, trust, and loyalty for your brand.

5. It doesn't have to be perfect

While traditional ads are expected to be professionally shot and perfect in every way, ephemeral ads don't have this same expectation. The quality of an ephemeral content video is secondary to the content itself. For example,

a smartphone-shot video of your colleagues having fun at a company picnic is the perfect piece of ephemeral content.

Ephemeral marketing may not be right for every business, and it may not be right all of the time. You should weigh the previous list with the following disadvantages.

Challenges to Ephemeral Content

One of the main downsides of ephemeral is that it only works on social media. You can post the same content to your website as well, but if you don't also share it on social, it won't have the same effect, as it will go largely unnoticed.

Another drawback is the short-nature itself. Content that comes and goes quickly may also be forgotten quickly. To maximize each platform with ephemeral content, you must keep producing regularly (often daily), which requires: (Trounce, 2018)

- A long-term strategy (how often, what content will you broadcast)
- The necessary skills and technical resources
- A budget (if you want it to appear more professional)

How businesses can overcome these challenges

1. **Lack of permanence:** The temporary nature of ephemeral content can make it challenging for businesses to create a lasting impression. To overcome this, businesses can repurpose the content into other formats such as blog posts, social media posts, or highlight reels.
2. **Limited time frame:** Ephemeral content is only available for a short period, which means that businesses need to be strategic in their planning and execution. Businesses can overcome this by creating a content calendar and scheduling content in advance.
3. **Audience engagement:** Ephemeral content can be challenging to engage with as it is only available for a short period. To overcome this, businesses can create interactive content such as polls, quizzes, or contests to increase engagement.
4. **Consistency:** It can be challenging to maintain consistency in creating and publishing ephemeral content. To overcome this, businesses can create a process and a team responsible for creating and publishing content on a regular basis.

5. Measuring effectiveness: Ephemeral content can be difficult to track and measure its effectiveness. To overcome this, businesses can use analytics tools to track views, engagement, and conversions.

In summary, businesses can overcome challenges to ephemeral content by repurposing the content into other formats, creating a content calendar and scheduling content in advance, creating interactive content, creating a process and team for consistency, and using analytics tools to track effectiveness.

Influencer Marketing

Influencer marketing involves a brand collaborating with an online influencer to market one of its products or services. Some influencer marketing collaborations are less tangible than that – brands simply work with influencers to improve brand recognition. Influencer marketing has become an essential component of social media marketing. By partnering with influencers, businesses can reach new audiences and build trust and credibility with their target markets. Businesses must focus on identifying and partnering with relevant influencers who align with their brand values and messaging. (engaiodigital, 2022)

Features and benefits of marketing your product through influencers

- **Influencer Marketing Increases Brand Awareness & Reach.** Most influencers in social networks have millions of viewers, including more than 2.5 billion followers of Instagram's 50 most followed influencers. Based on that, influencer marketing, in which you partner with influencers whose niche suits your products or services, will bring an excellent opportunity for you to approach millions of potential consumers.
- **Cost-effective.** Businesses find it harder to promote products or services as paid ad costs keep rising, in which influencer marketing can help keep the costs down. In comparison with other forms of advertising, doing advertising through influencers is relatively reasonable. The cost of an influencer largely depends on the size of the audience, and the niche in question. Influencer marketing opens up a whole new opportunity for brands to compete with a more efficient and optimized strategy on social media sites such as YouTube and Instagram.
- **Influencer Marketing Saves Time.** To create an advertising campaign, it takes you considerable time to produce the images, duplicate them, and schedule the ads across platforms. The partnership with influencers will, indeed, help you outsource everything and save you lots of time.

Influencer marketing will get your brand promoted daily on different channels by popular people. Especially in a moment of market stagnation, influencer-created content is becoming increasingly prevailing. Many influencers produce content from their homes or their studios, which, in turn, an influencer marketing partnership, will help brands to keep making fresh content remotely at all times. (engaiodigital, 2022)

- **Influencer Marketing Is Suitable for any Business.** Influencers are typically experts in their fields, for example, health, fitness, traveling, cuisine, beauty, business, technology, science, etc. No matter how big you are and what industry you are in, there is always room for everyone, as long as you identify the influencers who are most suited to your needs. Businesses might use different influencer marketing strategies to communicate and collaborate with influencers effectively.
- **Unlimited Sharing Potential on Social Platforms.** As influencers interact with their fans nearly every day, they are proficient in engaging with your, as well as their target audience, on the content they share about your brand and products or services. There are many ways influencers can help brands to spread the messages, for example, a post on Facebook, inspiring storylines on Instagram, a review video on YouTube, promotion codes, store's links, and more. (engaiodigital, 2022)

Challenges of Influencer Marketing and how can Businesses Overcome these Challenges

Influencer marketing has become an increasingly popular strategy for businesses to reach new audiences and build brand awareness. However, like any marketing strategy, there are also challenges associated with influencer marketing. Here are some ways businesses can overcome those challenges:

1. **Finding the right influencers:** One of the biggest challenges of influencer marketing is finding the right influencers for your brand. To overcome this, businesses should research and vet potential influencers carefully. Look for influencers whose values and content align with your brand, and who have an engaged and relevant audience.
2. **Ensuring authenticity:** Authenticity is key to influencer marketing success, but it can also be a challenge. Businesses should work with influencers who are genuinely interested in their brand and are willing to create content that is authentic and resonates with their audience. Additionally, businesses should avoid overly scripted or staged content, as this can come across as insincere.

3. **Measuring ROI:** Measuring the ROI of influencer marketing can be difficult, as there are many different metrics to track. To overcome this challenge, businesses should set clear goals and objectives for their influencer campaigns and use analytics tools to track performance. It's also important to track metrics like engagement, reach, and conversions to determine the effectiveness of your campaigns.
4. **Staying within budget:** Influencer marketing can be expensive, especially for smaller businesses. To overcome this challenge, businesses should set a budget for their influencer campaigns and negotiate rates with influencers to get the best possible value. Consider working with micro-influencers or nano-influencers who may be more affordable but still have a highly engaged audience.
5. **Maintaining relationships:** Building and maintaining relationships with influencers can be time-consuming but is critical for long-term success. To overcome this challenge, businesses should prioritize building authentic relationships with influencers and stay in regular communication with them. Consider offering incentives or perks to keep influencers engaged and motivated.

Overall, influencer marketing can be a highly effective strategy for businesses, but it requires careful planning and execution. By addressing these challenges head-on, businesses can maximize the impact of their influencer campaigns and achieve their marketing objectives. (engaiodigital, 2022)

Digital Marketing

Any marketing that uses electronic devices and can be used by marketing specialists to convey promotional messaging and measure its impact through your customer journey. In practice, digital marketing typically refers to marketing campaigns that appear on a computer, phone, tablet, or other device. It can take many forms, including online video, display ads, search engine marketing, paid social ads and social media posts. Digital marketing is often compared to “traditional marketing” such as magazine ads, billboards, and direct mail. Oddly, television is usually lumped in with traditional marketing. (mailchimp, n.d.)

Digital marketing tools are essential for understanding digital marketing versus social media marketing. To compete with competitors, modern digital marketers must be present on multiple forums. Several digital marketing tools can help managers save time and efficiently help them go through information or fine-tune marketing strategies. Some of the digital marketing tools are as follows:

- Organic social media marketing
- Email marketing
- Content creation tools
- Paid social media marketing
- Social media channels
- Video hosting tools
- Website analytics
- SEO tools

Features & Benefits

1. Cost-Effective and Measurable Results

Digital marketing gives you access to numerous tools that can track and analyze your campaign's performance. When you have hard data that you can pull up in real-time, you can allocate your market dollars accordingly. You can also adjust your marketing strategy as you go instead of scrapping it and starting over or finding out that your strategy didn't work after the fact. This approach can save you thousands of dollars, giving you a higher ROI in the long run.

2. Unlimited Customer/Client Targeting Options

What if your product is in the beta phase and you are performing market testing? What is the fastest way to get results on how people respond to your brand or your latest campaign? Digital marketing gives you unlimited options for targeting the right clients at the right time. You can develop and refine strategies such as retargeting, audience lists, surveys, reviews, backlinks, landing pages, Google analytics and others to determine if you are hitting the mark and how well your campaign is performing.

3. Customer Reach Anywhere in the Purchasing Journey

If digital marketing didn't give birth to customer journey mapping, it made it more tangible and definable. You can now identify your brand touchpoints, choose your customer persona, understand your customers' goals, map out your interactions and update your customer journey map instantly as needed.

4. Endless Customization on the Spot

One of the main benefits of customization is that it reduces the number of errors you make on the front end of your marketing campaign. If you

have more options, you are likely to make more informed decisions on launching your strategy. Digital marketing gives you endless customization through every stage of your campaign from start to finish—and afterward. (mailchimp, n.d.)

5. More Interaction with Your Customers

Think about all the ways that digital marketing can put you in touch with your customers: email, instant messaging, website content, videos, images, social media posts, SMS, widgets and banners. Digital tools give you more opportunities to interact with your crowd and build customer loyalty. It also helps you to reach different people in different segments of your market. While some people still only check their email, others use the latest apps to see ads or banners.

6. Greater Brand Credibility

With digital marketing, your company can establish brand credibility across a larger market. You can deliver valuable advice through blogs or opinion columns, lean on influencers to promote your brand, trade guest posts with other companies, create case studies and convert consumer engagement into content. Best of all, you can make your mark without spending too much time, energy, money or resources.

Challenges of digital marketing with suggestions to businesses to overcome those (Global, 2022)

Digital marketing is a way to optimize sales by using the internet and online-based technology. There has been an increase in digital marketing by 72% during a pandemic but the biggest challenge that businesses face with digital marketing is targeting the right audience and at the right time with relevant content.

It is hard to determine the right marketing strategy to promote a business because there are so many available choices, but taking a help from professional marketing agency can do wonders on your websites. Here, we will look at the available challenges faced by businesses and how to overcome them.

1. Learn about your audience

Marketing is done to generate leads and retain your existing consumers, thus to reach the targeted audience at the right time is the basic function of digital advertisements which helps them in visualize and a better understanding of the brand, but sometimes those advertisements don't reach the right audience or they can't relate to the content of the ads. So,

to avoid those businesses can adopt methods like FAQ and social media polling to understand their customer's needs, thus it can help us to have a better understanding. Taking a help from professional web designer and management company can help with the better understanding of the industry and will help in providing the latest ideas to engage consumers towards the websites.

2. Generating traffic

Traffic refers to knowing how much time a consumer is spending on our websites, as the more time a consumer spends, the more likely he/ she will make a purchase. Businesses use many kinds of paid and non-paid advertising to generate more traffic like SEM, SEO, social media marketing, etc. to make the consumers stay on your website. Good and right content is a must. The analysis of data collected through research and campaigns can help us better understand our customers so that we can deliver them the right content, resulting in more leads.

3. Managing cash flow – needs to be changed

There are many forms of paid digital marketing to generate more leads for your website and to expand your business, thus good digital advertising needs cash to persuade consumers to make a purchase, if a business doesn't know how, where and what to spend then it will be a waste of resources and thus doesn't allow them to reach the correct audience. To rectify that a business should also invest in market research which helps them to have a clear picture of their customers, thus helping them to do strategic analysis and adapt to a new marketing tactic. This will also help them to know about their advertising expenses, thus helping in cutting down the unnecessary ones. To complete these tasks the retailers can take help from the professional website maintenance company to ease up their work.

4. Keeping up with the latest web trends – updates

As the digital world keeps changing very fast, as a result, new trends enter the market frequently as well. To keep up with those new trends it is necessary to make consumers engage in digital marketing. Staying current on digital marketing trends is much the same as any professional who needs to keep their skills sharp through personal development. The bottom line here is that keeping your website updated with the latest trends and securing its optimization for speed, mobile and SEO is critical. Juggling all of these areas is a challenge for the digital marketer so taking help from a professional website development company can be very useful in this situation for your website maintenance.

5. Adopt an omnichannel market strategy

Digital marketing doesn't stop with adapting only one type of marketing, nowadays consumers are more active on different platforms and devices. A business must adopt multiple marketing strategies to gain more consumer reaction toward their brand, but that doesn't mean that a business should focus on every platform, that will be chaotic and expensive for a brand to be present everywhere. A brand should have the correct market and consumer knowledge and should analyze where and when they receive consumers' attention. Thus create a perfect plan and invest in a platform where they create more traffic. (Global, 2022)

Content Writing

Content writing is the process of writing, editing, and publishing content in a digital format. That content can include blog posts, video or podcast scripts, eBooks or whitepapers, press releases, product category descriptions, landing page or social media copy... and more. Simply put, content writers are the storytellers for their brand. They convey meaningful, helpful, and insightful messages to inspire and move an audience to take action — that action being a final sale. Nowadays, content creation is a critical component of most businesses marketing strategies. This means the role of content writer is more in-demand than ever before. However, the role varies depending on both industry and business needs. (Forsey, 2021)

For instance, some businesses might invest heavily in a social media strategy, while other companies prefer creating content in the format of blog posts or e-books. Regardless of format, a content writer is critical for creating high-quality content that represents and strengthens a brand's voice, while attracting, engaging, and delighting the right audience. When done right, content writing has the power to convert readers into prospects, and prospects into paying customers. So, it's undeniably important for your business' bottom-line that you're able to consistently create helpful, engaging content. (Forsey, 2021)

Features of Content Writing

Good content writing is more than just words. In fact, writing well is just the beginning of the process. In order to meet the goals of content creation, you will want to make sure the material you're providing is important to others, digestible, useful or at least enjoyable, and that it monetizes well. (pandologic, 2014)

1. Good Content is Diverse.

Content monetization refers to the process of generating revenue from online content. Content can be text, data, images, apps, music or video. The same content can also be posted in a variety of places, but in slightly different forms – a blog post, a tweet, a Facebook note, a Pinterest picture. You get the idea.

2. Good Content is Real.

As you have no doubt seen around the web, some people think that creating a “hook” page with shallow (or even pretend) content, and then ambushing visitors with a sales pitch, is a good way to go. It isn’t. It actually accomplishes the opposite: It repels users and deters them from continuing on your page or buying your products or services. Indeed, customers must be earned. And it’s a fast-paced competitive world out there. To get and keep business, you need to offer value, establish trust and credibility. All of that comes from content that serves a strong need or want.

3. Good Content is Relevant

Before you start creating content (or before you go any further with what you’ve got), it’s a great idea to step back and analyze. For optimal content monetization, you will want to make sure that every page is of the highest quality, and entirely relevant to your visitors.

Challenges in Content Writing

One of the most crucial content writing challenges is ensuring readability. There are times when writers get carried away by thoughts and ideas, and tend to deviate from the core objective of the content. Being a writer has many benefits, but it has its share of challenges as well. Writing content is not an easy job; it requires unique skill sets and expertise. And it takes time and effort to grow as a writer. Many of the challenges that content writers face are unforeseen. (Pepper, 2021)

Content writing is often a tough path to walk, with its particular set of writing challenges for beginners. However, if you are already aware of some of the challenges you could face as a content creator, it might be easier to be prepared to combat them. This blog’s objective is to share general problems and challenges faced by writers when they begin their writing journey, together with useful tips on how to do away with them faster and more effectively.

While content writing can give writers a lot of freedom, it can also introduce a list of challenges that can intimidate them easily. If you have become a content writer recently, you must know of these writing challenges. Let's take a look at a few of them. (Pepper, 2021)

- Readability
- Writer's block
- Meeting deadlines
- Curtailed creative freedom
- Finding quality work
- Extreme competition

To overcome these challenges

- Develop readable content
- Practice freewriting.
- Use hacks to avoid missing deadlines
- Avoid negativity and be realistic
- Blend your creativity with SEO

Social Commerce

Social commerce is the use of social media platforms like Facebook and Instagram to market and sell products and services. This type of selling model lets customers complete purchases without leaving social media apps.

Shoppers can use social commerce to:

- Discover brands
- Research products
- Interact with customer support
- Purchase items

Social commerce has gained momentum in recent years. Businesses can leverage social commerce to create a seamless shopping experience for their audiences, reducing the barriers to purchase and driving conversions. Social commerce is a more convenient and interactive shopping experience which may explain why it's becoming increasingly popular. Estimates show that the global value of social commerce will reach about \$2.9 trillion by 2026. (Stanley, 2022)

Benefits of Social Commerce

1. Consistent Audience Growth

Every day, thousands of new users join social media sites around the world. Millions are already active on it. Facebook has over a billion active users each month and many new users join every hour. One of the most important considerations for any business is how to reach and sell to its target customer audience. For companies that use social commerce, their followings are continuously growing and accessible. (PIXLEE, n.d.)

2. Higher Search Engine Ranking

Engagement on social media can lead to more than just direct transactions. It has been proven that social media commerce actually increases traffic to your website which will eventually influence your ranking on search engine results. Sharing links to content on your website through social media is an excellent way to drive traffic from social media users. It also allows your audience to engage with a comment, like, or share to reach an even larger audience.

3. Customer Loyalty and Retention

In using social commerce for your business, you are aiming to sell and promote your products/services, but you are also aiming to build good relationships with people. By using this opportunity to engage with prospects, a company can build and maintain relationships that deepen trust and loyalty. This in turn creates customers that are satisfied with your service, who will likely remain clients who make repeat purchases. Make sure to treat first time buyers just as well as you'd treat repeat purchasers – they're both incredibly important! (PIXLEE, n.d.)

4. Personalization

One of the many advantages of using social commerce is merchants collect invaluable customer data. Insights that come from Facebook, Instagram, Twitter, and Pinterest help merchants personalize customers' experiences. With online and offline data, retailers can build more robust customer profiles. These profiles can enhance campaign relevance, help merchants hire the right micro-influencers, and dictate the type of content which motivates sales. (PIXLEE, n.d.)

Challenges to Social Commerce

While social commerce has great potential for businesses, it also presents several challenges. Some of the main challenges to social commerce include:

1. **Trust and security concerns:** Consumers may be hesitant to purchase products through social media platforms due to security and trust concerns. Businesses can overcome this by implementing secure payment gateways and building trust with their customers through transparency and communication.
2. **Limited functionality of social media platforms:** Social media platforms may not have all the necessary features for conducting e-commerce transactions, such as product catalogs, payment processing, and order tracking. Businesses can overcome this by integrating their social media accounts with their e-commerce website or using third-party social commerce platforms.
3. **Competition and noise:** social media are a crowded space, and businesses may struggle to stand out among the competition. Businesses can overcome this by creating unique and engaging content, targeting niche audiences, and using social media advertising to reach their target market.
4. **Data privacy and compliance:** Social media platforms are subject to data privacy regulations, and businesses need to ensure that they are compliant with these regulations. Businesses can overcome this by implementing privacy policies and obtaining consent from customers for the collection and use of their data. (firework, 2022)

To overcome these challenges, businesses can take several steps, including:

- Build trust with customers through transparency and communication.
- Integrate social media accounts with e-commerce websites or use third-party social commerce platforms.
- Create unique and engaging content to stand out among the competition.
- Target niche audiences to reach the right customers.
- Implement privacy policies and obtain consent from customers for the collection and use of their data.

Overall, businesses can overcome the challenges of social commerce by understanding their customers' needs, building trust, and implementing effective strategies for reaching their target audience.

Augmented Reality

Augmented reality (AR) is a technology that superimposes digital information such as images, videos, sounds, or other data onto the real-

world environment in real-time. The technology uses sensors, cameras, and other devices to detect the real-world environment and overlays it with digital content, enhancing the user's perception of reality. (Amedei, 2022)

AR applications can be used in a variety of fields such as entertainment, education, advertising, tourism, and healthcare. Some common examples of AR include mobile apps that overlay digital information on top of a camera view, such as Snapchat filters. Another example is the use of AR in retail, where customers can try on clothes virtually, or in architecture, where builders can see a virtual model of a building on top of the actual construction site. Augmented reality has become increasingly prevalent in social media marketing, offering businesses the opportunity to create immersive and interactive experiences for their audiences. By leveraging AR, businesses can showcase their products in a unique and engaging way, driving engagement and building brand awareness.

AR incorporates three features:

- a combination of digital and physical worlds.
- interactions made in real time.
- accurate 3D identification of virtual and real objects.

Benefits of Augmented Reality

- **Improving the quality of production processes.** Augmented reality solutions allow for the improvement of production process quality by accelerating productivity safely, reducing errors, and guaranteeing greater compliance with company standards. This technology is particularly useful for checks and inspections, two key processes when it comes to ensuring the highest possible product quality.
- **Reducing production and service costs in the field.** This is made possible through direct intervention in optimizing costs, whether as a result of increased productivity or improvements in process quality. Augmented reality makes it possible to reduce design, production, and maintenance costs. For example, using augmented reality to maintain machinery allows problems to be solved faster and more efficiently, reducing the time taken to search for and identify malfunctions, as well as the length of time for repairs.
- **Refining training and skills sharing.** One of the benefits of augmented reality for business is the improvement it can bring to training, a fundamental activity for any company. AR solutions can be exploited to improve the skills of the workforce, with staff able to receive precise and

specific instructions on the work required remotely, a type of training that can be performed both individually or as a group. Remote guidance by experts can, in fact, provide benefits to the entire field team and make it easy for employees to learn complex concepts through the use of visual representations. The use of augmented reality for training is a scalable and versatile solution, which can improve staff skills at any level of experience. (Amedei, 2022)

- **Optimizing the product assembly process.** Another benefit of augmented reality technologies is the optimization of product assembly. This type of work requires operators to be particularly meticulous, which can be challenging when hundreds of parts need to be assembled quickly and correctly following instructions in the technical document. The use of AR allows this process to be made more interactive and simpler, making assembly information clear and supplied to the operator through an AR headset. This solution allows the employee to focus on assembling the product, saving time and doing away with the need for them to concentrate on reading the instructions in a long and complex file of the text.
- **Improve industrial safety standards.** Augmented reality makes it possible to improve safety in a number of areas linked to the industrial sector. First and foremost, operators can protect themselves from handling risks by interacting with the production environment more safely. It is also possible to take advantage of physical and organizational benefits thanks to the improved ergonomics of employees working with AR solutions. (Amedei, 2022)

Challenges to Augmented Reality and How Businesses Overcome It

There are several challenges to augmented reality technology that businesses need to overcome to fully utilize its potential. Here are some of the key challenges and ways businesses can address them:

1. **Technical complexity:** Developing AR applications can be complex and requires specialized skills, including knowledge of computer vision, 3D modeling, and mobile development. Businesses can overcome this challenge by partnering with experienced AR development companies or by hiring skilled AR developers.
2. **Hardware limitations:** AR applications require specific hardware such as cameras, sensors, and displays, which may not be available on all devices. To overcome this challenge, businesses can develop

AR applications that support a wide range of devices, or partner with hardware manufacturers to ensure compatibility.

3. **User experience:** AR applications need to be intuitive and easy to use for users to fully benefit from them. Businesses can overcome this challenge by conducting user testing and incorporating user feedback into the application's design.
4. **Content creation:** Creating compelling and engaging content for AR applications can be challenging. Businesses can overcome this challenge by partnering with content creators or by developing in-house expertise in AR content creation.
5. **Integration with existing systems:** Integrating AR applications with existing enterprise systems can be complex. Businesses can overcome this challenge by working with AR vendors that have experience in enterprise integration.

Overall, to overcome these challenges, businesses need to have a clear understanding of their goals for implementing AR technology, and develop a comprehensive strategy that addresses technical, content, and user experience challenges. (Baron, 2021)

Future of Social Media Marketing

The future of social media marketing is likely to be characterized by greater innovation, personalization, and data-driven decision-making. (Pauline, n.d.)

- **Greater emphasis on video content:** Video content is becoming increasingly important in social media marketing. Platforms like TikTok and Instagram Reels have shown the power of short-form video content in capturing attention and driving engagement.
- **Increased focus on privacy and data security:** With growing concerns about data privacy and security, social media marketing may need to adapt to new regulations and consumer preferences. This could mean more transparent data policies, or more emphasis on opt-in consent for data collection and use.
- **Drive to Personalization:** The future of social media marketing also lies in personalization. In the past, social media platforms were used primarily as a way to broadcast a message to a larger audience. However, future social media platforms will be more focused on providing a personalized experience for each user.

- **Rise of social commerce:** Social media platforms are increasingly becoming e-commerce marketplaces, with features like shoppable posts and in-app purchasing. This trend is likely to accelerate in the coming years, with more brands using social media to drive sales.
- **Increased use of augmented reality and virtual reality:** With the advent of technologies like AR and VR, social media marketers will have new and innovative ways to engage with their audiences. These technologies will allow for more immersive experiences that can help build brand loyalty and awareness. (Pauline, n.d.)

Conclusion

One of the most important things to understand when developing a social media strategy is that the social media marketing landscape is continually changing. What worked yesterday might not work as well today, and what works today might not work as well tomorrow. This just means that marketers need to be constantly adapting their strategies to stay ahead of the curve, understanding the shifts in consumer behaviors and platform preferences.

As businesses continue to navigate the digital landscape, staying on top of emerging social media marketing trends is essential. The emergence of new social media platforms, the rise of ephemeral content, the impact of influencer marketing on businesses, the importance of social commerce, and the role of augmented reality all secure the future of social media marketing.

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A Study on Factors Affecting Consumer Buying Decisions towards the Purchase of Green FMCG Products

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Abstract

Purpose: *To identify the factors affecting the consumer buying decisions towards the purchase of green fast-moving consumer goods.*

Methodology: *he research study employs a descriptive and qualitative methodology. The analysis is conducted using Advanced Excel, which includes the utilization of T-test and ANOVA tests.*

Findings: *Based on the study, the findings reveal that consumers are motivated to purchase environmentally friendly fast-moving consumer goods (FMCG) products due to various factors. These factors include considerations such as product quality, lifestyle choices, health concerns, promotional activities, advertisements, convenience, and environmental consciousness.*

Research Limitations: *Since convenience sampling was used and the sample size was small, not all respondents were fully covered.*

Originality: *This paper is a first attempt at examining the factors affecting consumer behavior towards green FMCG products.*

Keywords: *Green FMCG, Consumer Buying Behavior, Eco Friendly Products, Environment Concern, Advanced excel, T test, Anova*

Introduction

Green items, also known as environmentally friendly or eco-friendly items, are goods and services that have no significant negative impacts on the environment and consumer health. They promote environmental sustainability by protecting the environment and conserving resources for future generations. The FMCG sector, which encompasses a wide range of consumer packaged goods such as detergents, toiletries, cosmetics, and more, holds the fourth position in the Indian economy. Recognizing the environmental consequences of their products, companies operating in the FMCG industry are becoming more conscious and are actively pursuing eco-friendly certifications to meet the demands of environmentally aware consumers. The market for environmentally friendly products has seen significant growth, with new businesses and products entering the market regularly. Indian consumers are gradually recognizing the importance of using eco-friendly, natural, and organic products for a healthier and more sustainable lifestyle. While the terms “eco-friendly” and “organic” are often used interchangeably, they have distinct qualities and implications. Organic products are made from organically cultivated ingredients without the use of pesticides or fertilizers and do not contain chemicals, genetically modified organisms, artificial perfumes, or colors. Indian consumers have shown interest in natural and organic products, although the adoption rate is lower due to higher costs. However, many brands in India have emerged with 100% natural and organic products at affordable prices to make them more accessible. Consumers are willing to make the switch to eco-friendly companies and are even inclined to pay more for sustainable products, according to studies. The organic food industry in India is projected to grow significantly, considering the increasing demand for eco-friendly products.

Literature Review

Suraj Verma et al. conducted a study in rural areas to determine the demographic factors impacting the decision-making processes for purchasing green FMCG items. They discovered that decisions regarding product categories including toothpaste, shampoo, soap, and hair oil were highly influenced by variables like educational qualifications, occupation, and family members under the age of 18. Sewwandi and Dinesh investigated the impact of environmental advertisements, the perception of eco-labels and brands on green purchasing behavior. Their study, based on a survey of 150 individuals using home appliances, revealed a strong positive association between these variables and green purchasing behavior among

consumers. Wencan Zhuang et al. conducted a meta-analysis to determine the factors influencing consumers' green purchase intentions. The study found the strongest positive correlations between green buying intention and perceived value, attitude, and trust. On the other hand, there was a moderate level of association between variables like perceived behavioral control, subjective norm, and environmental concern. Ashish Gupta et al. concluded that consumers' agreement with specific attributes of green FMCG products was satisfactory but emphasized the need for additional marketing and awareness campaigns. They found that most respondents preferred buying green FMCG products from organized retail stores, presenting an opportunity for marketers to focus on these distribution channels. N. Divyapriya Dharshini et al. explored the reach and impact of eco-friendly products among consumers, emphasizing the need to educate people about the features and uses of green products. Rakesh Dondapati and S. Rabiya Basariya revealed that consumers are open to buying eco-friendly FMCG products if they are persuaded of their environmental advantages and if the cost is competitive with that of traditional goods. Rizka Zulfikar et al. discovered that Banjarmasin's public prioritized functional value indicators over other factors like social value and economic value when considering green products. ML Ashok et al. highlighted consumers' willingness to buy eco-friendly FMCG products when convinced of their environmental benefits and reasonable cost. They emphasized the importance of awareness campaigns and the use of eco-labels. Nagaraju et al. found that although consumers are becoming more aware of the benefits of green products, there is still a need for further efforts and collaboration between the government, organizations, and consumers to achieve ecological balance. Anees Ahmad et al. investigated how consumer environmental concern, environmental knowledge, and perceived self-expression benefits influenced attitudes and intentions to purchase green brands. They found that self-expression benefits and environmental concern significantly influenced Indian consumers' inclination to purchase green brands. Shweta Singh et al. found significant differences in eco-friendliness between genders and age groups, with women showing a higher inclination towards eco-friendly choices. Price and promotion were identified as vital factors influencing mindsets and desires towards buying eco-friendly products. W. M. C. Bandara Wanninayake et al. highlighted the increasing realization among businesses and customers about the importance of environmental responsibility. They emphasized the need for green marketers to make it easier for people to make environmentally friendly choices.

Research Objective and Methodology

Research Objective

- To identify the factors affecting customer buying decisions towards fast-moving consumer goods.
- To study the most important factor among identified factors in consumer buying decisions towards green, fast-moving consumer goods.
- To study the impact of demographic factors (gender and educational qualifications) on consumer buying decisions towards green fast-moving consumer goods.

Research Methodology

In this study, researchers utilized a descriptive design to examine consumer buying behavior towards green fast-moving goods (FMCG). The study aimed to address various questions, such as the reasons behind people's purchases of green FMCG, where they typically make these purchases, and which age group demonstrates the highest purchasing of green FMCG, among other related inquiries. In the study, primary and secondary data were both used. While secondary data was gathered through websites, research papers, periodicals, journals, and other pertinent sources, primary data was gathered through questionnaires created using Google Forms. Convenience sampling was employed, and questionnaires were distributed among 150 individuals. However, due to incomplete or missing data, the analysis was conducted on a sample of 106 individuals.

Hypothesis

- a. Gender has little to no impact on consumers' purchasing choices for fast-moving green goods.
- b. Education levels have little or no bearing on what consumers choose to buy when it comes to fast-moving green consumer goods.

Data Analysis

Analytical Tool

The collected data will be analyzed using Excel Inferential Statistics.

Interpretation

It can be inferred that respondents give the utmost priority to quality and health while making decisions about buying green FMCG products.

After quality and health, promotion and advertisement play a key role in comparison to packaging, easy accessibility, and the environment when purchasing green FMCG products.

Results

Interpretation of T test

The t test estimates the true difference between two group means, and according to the results shown, the absolute value of the t statistic is (-33.67). The critical value at a significance value of 0.05 is (1.98). As compared, the p-value is less than the critical value, so we reject the null hypothesis, stating that the sample means are not significantly different. Gender does not influence purchasing decisions for green FMCG products.

Interpretation of Anova Test

The anova test estimates the true difference between two or more group means, and as per test results, if the p-value is less than .05, we tend to reject the null hypothesis of the one-way ANOVA and conclude that group means are not equal, i.e., educational qualification is not the influencing variable for purchasing green FMCG products.

Discussion

The research paper highlights the quality of eco-friendly products in the FMCG category and promotes the users to buy Green FMCG products. In order to analyze the respondents' purchasing choices with regard to a few key factors, including quality, environmental concerns, lifestyle, health, price, packaging, accessibility, promotions, and marketing. On a 5-point Likert scale, the basis for decisions was rated as "strongly agree," "agree," "neutral," "disagree," and "strongly disagree". It was also found that consumers tend to buy the green FMCG products in the near future as well but there is no role of gender and qualification in buying behavior of the product. Customers typically purchase green fast-moving consumer goods (FMCG) from supermarkets, as these stores offer an extensive selection of green products.

These goods contribute to conservation, reduced pollution levels, and a healthier environment as a result of their sustainable production. In eco-friendly products, the use of non-toxic materials is prioritized over harmful compounds that are hazardous to both humanity and the environment. They do not contain potentially harmful substances such as phthalates, solvents, or

parabens. Consumers' growing concern for the environment has compelled producers to come up with products that are secure for the environment and better for the well-being of consumers.

Conclusion and Implications

Through the study done above, it can be said that people have the intent to purchase eco-friendly fast-moving consumer goods (FMCG) as long as the price is not significantly higher than that of conventional products. People are migrating towards more green or eco-friendly items to strengthen their immune systems, as demonstrated by the fact that health and quality are their top priorities when purchasing green FMCG. Consumers also find green FMCG products to be more expensive than conventional goods, but they are prepared to pay extra. According to our research, if the manufacturers wanted to increase sales of green fast-moving consumer goods (FMCG), they should market their products through advertising, as a large number of people are influenced by it. Since organized retail outlets are where the majority of respondents wish to purchase green FMCG items, marketers and manufacturers of green FMCG products can emphasize organized retail outlets as a distribution channel. Green consumer packaged products have typically been well received, and this trend will likely continue for the foreseeable future.

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Chapter-11

Cloud Computing: A Brief Study

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Abstract

Cloud Computing has become a buzz world in today's life. Almost everywhere of the world is using the cloud computing technology. Due to its varied features the Speed, Mobility, Storage Capacity and it has gathered immense popularity in the IT industry. Though this paper, we aim to introduce Cloud Computing technology along with its components. We also discuss the services, Merits and De-merits of the Cloud Computing. The last section of the paper states the various application area of Cloud Computing.

Keywords: *Iaas, Paas, Saas, Datacentre, Distributed servers, VPN.*

Introduction

The cloud is just a metaphor for the Internet. Like real clouds which are the collection of water molecules, the term 'cloud' in cloud computing is the collection of networks.[1] With the growing demand of services Cloud Computing is ruling over the internet. Business and start-up are able to minimize cost and increase their contribution without purchasing and managing the hardware and software. By the term cloud computing we refer to the go delivery of computing services on pay as per use basis. Companies are using their data in so many ways to fulfil business needs and computing technologies are able to process and store them on demand

data effectively. It can provide services over network i.e., on public or private network like LAN, WAN or VPN. Applications like e-mail, web conferencing, Customer Relationship Management (CRM) all run in Cloud. In traditional distributed computing architecture, there were many disadvantages as it lacks in delivering flexibility, scalability, elasticity and faster processing speed. The aim is to provide a complete overview of how cloud entities work together with a solid ground of technical infrastructure, which will enable any researchers to develop cumulative knowledge for future research extension and evaluation.[5]

Components of Cloud Computing

A framework of cloud computing is broadly categorized as Clients, Data center, Distributed servers.

A. Clients:

Clients in cloud computing generally operate local area network (LAN). They are in the form of desktop where they can be placed on their desks. They can also be in the form of laptops, mobile to enhance mobility. Clients are responsible for interaction which pushes for the management of data on cloud servers.

B. Datacentre:

Data center are collection of servers that houses the subscribed application. Development of IT industry has brought the concept of virtualizing servers, where software is installed through utilization of various instances of virtual servers.

C. Distributed Servers:

Distributed servers are a server where it is housed in other location. Physical servers are not housed in a similar location. The distributed servers and the physical server appear in different locations whereas cloud applications serve as a service which operates both the hardware and software architecture.

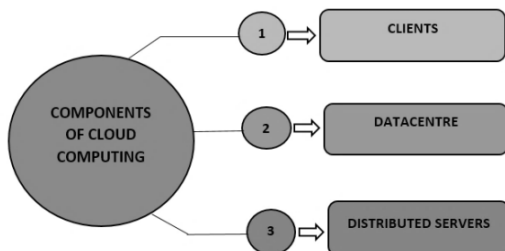


Fig.1: Components of Cloud Computing

Services of Cloud Computing

The basic cloud computing models are as follows:

A. Infrastructure as a service (IaaS):

This service allows for economical web hosting services and assists in big data analysis. It maintains huge storage, backup and recovery. IaaS provides users to access computing resources such as networking, processing power and data storage capacity. Examples of IaaS providers are Drop Box, Amazon EC2 and Akamai.[2]

B. Platform as a service (PaaS):

It acts as a platform for the development and modification of cloud-based applications. PaaS tools allows to investigate information and finding deeper insights to deliver better outcomes. It offers services for enhanced protection, workflow, directory and scheduling.

C. Software as a service (SaaS):

This approach is followed to deliver software applications over the internet. Users need not to install any application on their PCs to access the software services provided by the cloud.[3] It is simply accessible for complex applications. It allows individuals to get connected and utilize cloud applications.

Advantages of Cloud Computing

Some important advantages of Cloud Computing are:

A. Cost Efficiency:

The reason behind companies shifted to cloud computing because it provides lesser cost as compare to any on premise technology. It provides cost of resources which we actually use.

B. High Speed:

It is very easy to deploy. It is all software base which can be done within severally clicks and littler period of time.

C. Mobility:

Users who are using cloud computing can easily access all the cloud services from anywhere and anytime through different type of devices (e.g., mobile phones, laptops and tablets). All they need is internet connectivity.

D. Backup and Restore Data:

Once the data stored in cloud it can easier to Backup and Restore it.

E. Unlimited Storage Capacity:

Cloud computing provide almost limitless store capacity. But if you need to expand any time can by pay very nominal monthly fee.

Disadvantages of Cloud Computing

Despite its growing influence, concerns regarding cloud computing still remain an issue. Some common challenges are [4]:

A. Network Dependency:

Good Network Connectivity is required to use cloud computing. You can't access cloud without internet.

B. Lack of Support:

Cloud computing companies fail to provide support to the customers. However, they provide FAQ's or online help for customers.

C. Server Downtime:

Downtime is a period of time in which the services is unavailable or not working due to unexpected circumstances. The causes of Downtime are:

- Human error
- Traffic overload (DDoS) attack
- Malicious attacks

D. Vendor lock-in:

It is the biggest disadvantage of Cloud Computing. Organizations face difficulties when they transfer their services from one vendor to another.

E. Security:

However, Cloud Computing provide best security standards to store information. But, before start using cloud technology, you should be aware that all sensitive information is sending to a third party, i.e, a cloud service provider. There may be a chance that information can Hacked by Hackers.

Applications of Cloud Computing

In this section, we present some applications for cloud computing:

A. Data Storage and Backup:

Users can store information such as data, files, images etc on the cloud by using internet. It also allows information to share and collaborate. The data store on cloud is secure and backup instantly. It provides users easy to use, Convenient, High speed, security. Most important application of

cloud computing is Backup. It provides users to access and send data from any location over a wired Connection.

B. Education:

Cloud computing Education refers to moving a school's data into IT resources. Some of the applications used by Education sector in Cloud Computing are Google documents, Spreadsheet, PowerPoint Presentation which bring benefits to Teachers, Students and all the employees in the education field and it makes E learning faster, Broader and Easier. Students can present presentation via web conferencing which is all done in the cloud.

C. Antivirus

Cloud-based antivirus moves workloads from an individual's computer to a cloud-based server. By having antivirus in the cloud, individual computers won't get slowed down by hosting large software.

D. Entertainment

With the help of cloud, the entertainment industry is reaching a new height. They use a multi-cloud strategy to interact audience. In Entertainment Cloud Computing offers various applications such as online games and video conferencing. You can also stream music, movies, play online games which is another medium that is becoming wider.

Conclusion

In this paper we explore many services and applications of Cloud computing which have interact people from different disciplines. Cloud Computing has become a great support to emerging business by satisfying the large number of customer's needs. Thus, we can say Cloud Computing is not only a wonderful but also an intelligent service.

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Meta-verse and Augmented Reality: A Bibliometric Analysis and Its Implications

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Abstract

Symbolizing 4th Industrial Revolution Meta-verse or augmented reality technology is gaining unprecedented rise in recent times. This cutting edge technology has already transformed user experience as the technology have been successfully tested and implemented in different industries and is further exploring its applicability in different areas. This is providing base to various future innovations. The current research paper identifies the growth of literature on the topic Meta-verse and Augmented Reality in the recent times. This study is an attempt to identify the existing literature available on “Meta-verse” and “Augmented Reality” implemented in different areas and suggests the future directions for study. For the purpose of this study, data was extracted from Scopus database and Bibliometric analysis was done on 301 articles using the software R-studio Biblioshiny package. The study highlighted the trend of annual production of literature in this area from the year 2007 to 2023. It also highlights the most influential journals, authors and publications in this area. The researcher further applied co-citation analysis to identify the documents, authors or keywords which are co-cited to examine the intellectual structure.

Introduction

Symbolizing 4th Industrial Revolution Meta-verse or augmented reality technology is gaining unprecedented rise in recent times. Augmented Reality and Metaverse are the buzz words discussed among the academicians, industry experts and economists. The technology is believed to revolutionarize multiple beneficiaries’ interactive teaching learning, market, market presence and

consumer experience. The technology sets to offer contactless market space, teaching platform allowing real time interaction and coexistence Lim, S. F., & Kamin, Y. (2023). AR Augmented Reality showing potential to improvise consumer experience, desirability, mentally stimulating food consumption increasing the likelihood of food purchase Fritz, W., Hadi, R., & Stephen, A. (2022). Reviewing the diverse applicability of the technology online marketers can gain considerably by creating attractive online stores using cool AR technology Zhang, M., Li, Y., Li, Y., & Ren, X.

The studies focused on highlighting the beneficiaries of the technology, factors creating positive and negative perception towards the technology such as privacy and emotions Yin, Y., & Hsu, C. (2023). The selection and rejection of the technology using the Appraisal Tendency framework

The biggest beneficiary of the technology is online shopping industry, vocational training, music industry, gaming industry etc. AR enhances utilitarian and hedonic shopping experiences by generating interactivity, vividness, informativeness Riar, M., Xi, N., Korbel, J. J., Zarnekow, R., & Hamari, J. (2022). Research advancement is guided by synthesizing findings from past research. Scholars followed 2 popular conceptual and judgmental methods Systematic Literature Review and meta analysis. Recently a scientific method has evolved: Science Mapping. Science mapping enables spatial representation of the findings analogous to geographic maps (Calero-Medina & van Leeuwen, 2012; Small, 1999). Absence of researcher’s bias fortifies the research making it purely scientific and objective in nature. Bibliometric methods employ a quantitative approach for the description, evaluation and monitoring of published research Zupic, I., & Čater, T. (2015). Availability of online databases enhanced the attractive of the technique.

The research followed the procedure of conducting Bibliometric analysis suggested by Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021 and Zupic, I., & Čater, T. (2015). High level of similarity was identified The process is discussed in Figure 1.

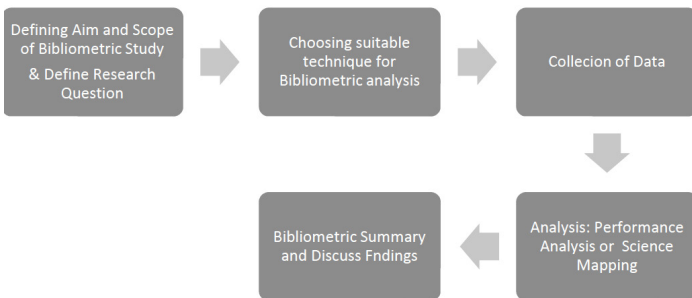


Figure 1

The study was conducted focusing on performance analysis of the available literature by evaluating its publication presence and science mapping evaluated the dynamics of key fields.

Selection of Dataset

We rely on two segments to compose the bibliometric data for current research. During the first segment, we select the research articles from Scopus database, as it provides the widest coverage for social science papers. Next, we form the search query to select literature and apply various filters so that optimal results match our research objectives. The final search query consists of ‘TITLE-ABS-KEY (“Meta Verse” OR “Augmented Reality” AND (LIMIT-TO (SUBJAREA, “Soci”)) AND (LIMIT-TO (SUBJAREA, “Busi”)) AND (LIMIT-TO (SUBJAREA, “Arts”)) AND (LIMIT-To (LANGUAGE, “English”) (LIMIT-TO (PUBYEAR> 1998)). The final search outcomes consist of 7165 research articles. We limit our search query to find the English language to perform bibliometric analysis; lastly, we manually analyze the research articles and exclude 301 articles to meet the objectives of current research;

Table 1: Descriptive Statistics

Timespan	2007:2023
Sources (Journals, Books, etc)	163
Documents	292
Annual Growth Rate %	24.19
Document Average Age	3.54
Average citations per doc	9.339
References	14091
DOCUMENT CONTENTS	
Keywords Plus (ID)	243
Author’s Keywords (DE)	776
AUTHORS	
Authors	680
Authors of single-authored docs	70

AUTHORS COLLABORATION	
Single-authored docs	81
Co-Authors per Doc	2.6
International co-authorships %	19.18
DOCUMENT TYPES	
article	74
book	10
book chapter	153
conference paper	39
conference review	2
editorial	1
erratum	1
note	4
review	8

Table 1 shows the descriptive statistics of the available data. For the purpose of the analysis 292 research articles authored by 680 authors published in 163 for the period 2007 to 2023. Out of the total 292 articles only 81 article were single authored that shows a high level of collaboration of authors in this subject area. The average citation per doc is 9.33 which is considered to be very good. The annual growth rate 24%, in this subject area shows that this an emerging area of study for the researchers.

The Annual publication Trend and Annual mean total citation per year on the topic “Meta-verse” and “Augmented Reality” are shown in figures 1 and 2. It is observed from the figure 1 that in the initial five years of time span from 2007 to 2012, not much contribution is made by the authors in this areadue to the slow Augmented Reality technology diffusion and adoption by the society. However an exponential growth has been observed in the research contribution on the topic from the year 2013. The maximum research contribution in this area is made in the year 2022. The figure 2 shows the annual mean total citation trend for the research articles from 2007 to 2023. It is observed that the available literature was cited maximum in the year 2009 followed by 2014 and 2017.

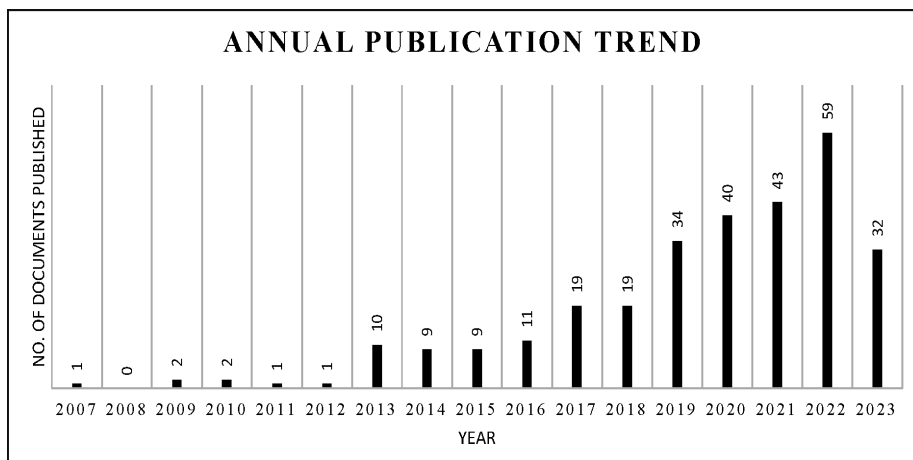
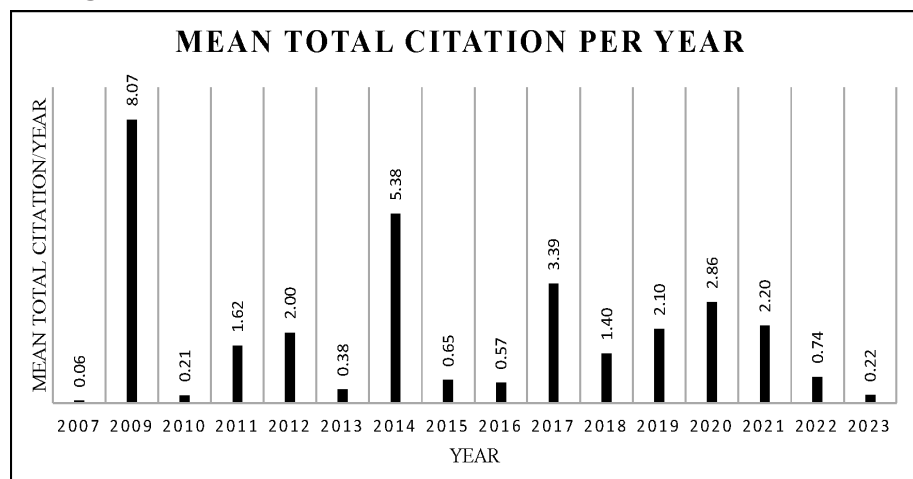
Figure 1: Annual Publication Trend**Figure1: Annual Publication Trend****Figure 2: Annual Total Citation Per Year****Figure 2: Annual Total Citation Per Year**

Figure 3 represents the three field analysis of the literature available on the research topic “Metaverse” or “Augmented Reality”. The three field plot is created by selecting research journals on left side, authors’ countries on the right side and research theme in the middle. The figure indicates that “Augmented Reality”, “Virtual Reality” and “Industry 4.0”.are the main research area in recent times and most of the contribution is coming from India followed by USA and UK.

The majority of the work is published in Springer proceedings in Business and Economics followed by the journal of Studies in Systems, Decision and Control.

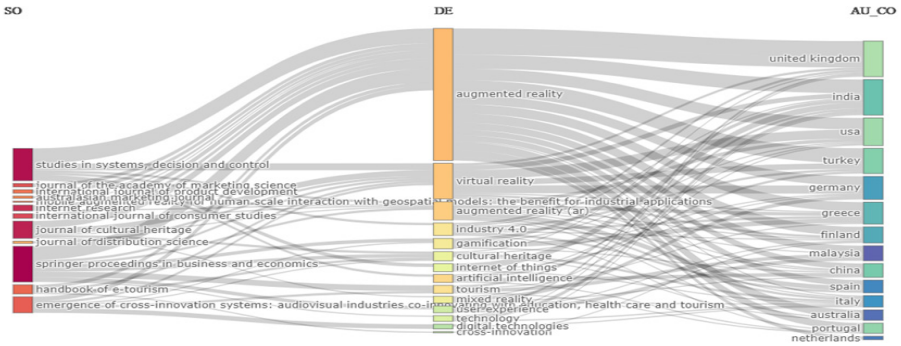


Figure 3: Three Field Plot

Most Influential Research Journals

Table 2 summarises the 15 most influential journals in this area based on their h_index, g_index, total citations, number of publications and publication starting year. It is observed from the table that the Journal of Cultural Heritage is the most influential journal in this area with the highest h_index and g_index and the total citation is 685. Although the number of papers published by this journal in the area of research is very low.

Table 2: Most Influential Journals

Element	H_index	G_index	TC	NP	PY_start
JOURNAL OF CULTURAL HERITAGE	7	9	685	9	2009
STUDIES IN SYSTEMS, DECISION AND CONTROL	6	10	127	27	2014
INTERNET RESEARCH	5	8	269	8	2014
JOURNAL OF THE ACADEMY OF MARKETING SCIENCE	4	5	465	5	2017
AUSTRALASIAN MARKETING JOURNAL	3	3	131	3	2018
INTERNATIONAL JOURNAL OF CONSUMER STUDIES	3	5	52	5	2021
JOURNAL OF DISTRIBUTION SCIENCE	3	3	29	3	2019
JOURNAL OF OPEN INNOVATION: TECHNOLOGY, MARKET, AND COMPLEXITY	3	3	25	3	2021
ACCOUNTING, FINANCE, SUSTAINABILITY, GOVERNANCE AND FRAUD	2	2	5	2	2022

EMERGING INNOVATIVE MARKETING STRATEGIES IN THE TOURISM INDUSTRY	2	2	21	2	2015
INTERNATIONAL JOURNAL OF PRODUCTION ECONOMICS	2	2	125	2	2020
SPRINGER PROCEEDINGS IN BUSINESS AND ECONOMICS	2	5	37	33	2016
A HANDBOOK OF PROCESS TRACING METHODS: SECOND EDITION	1	1	5	1	2019
ADVANCED FASHION TECHNOLOGY AND OPERATIONS MANAGEMENT	1	1	2	1	2017
AGRIS ON-LINE PAPERS IN ECONOMICS AND INFORMATICS	1	1	9	1	2015
APPS MANAGEMENT AND E-COMMERCE TRANSACTIONS IN REAL-TIME	1	1	5	1	2017

Core Research Publications

Table 4 provides an overview of the most frequent word in the available documents. The most frequent keywords are extracted from the keyword plus, author keyword, titles and abstract. It is observed that “augmented Reality” is the most frequent keyword used in the literature. The “reality” word is found more frequently in the abstract and titles.

Table 4: Most frequent Keyword

Keyword Plus	Frequency	Author Keywords	Frequency
augmented reality	20	augmented reality	102
virtual reality	5	virtual reality	26
augmented reality systems	3	augmented reality (ar)	9
augmented reality technology	2	artificial intelligence	8
change management	2	tourism	8
electric power transmission networks	2	industry 4 0	7
helmet mounted displays	2	gamification	6
human resource management	2	mixed reality	6
information management	2	cultural heritage	5
intelligent robots	2	internet of things	5
internet of things	2	technology	5
interoperability	2	user experience	5
mobile app	2	cross-innovation	4
object detection	2	digital technologies	4

(Contd...)

sales	2	digitalization	4
Titles	Frequency	Abstract	Frequency
reality	127	reality	403
augmented	111	augmented	321
tourism	38	ar	305
digital	30	technologies	244
virtual	29	technology	210
marketing	28	virtual	181
technology	28	research	178
technologies	21	digital	176
experience	20	study	172
applications	19	tourism	166
business	18	data	135
heritage	15	applications	134
industry	15	marketing	133
application	13	chapter	128
innovation	13	information	124

Word Cloud

Figure 4 shows the word cloud on the basis of the keyword plus analysis. In which the size of the word shows the frequency. It is observed from the figure that “augmented reality” is the most frequently used keyword plus followed by “virtual reality” and “augmented reality system. However helmet mounted displays, augmented reality system and augmented reality technology are few of the most frequent keyword plus available in the sampled studies.



Figure 4: Word cloud on the basis of keyword plus

Main Researcher, Research and Countries

Table 5 shows the most relevant author analysis on the basis of number of research papers published by the author on this subject and h-index. It is observed from the table that Hassan A has highest contribution in this subject having 10 published papers with the highest h-index. He has contributed in many chapters as “Consuming Innovation in Tourism: Augmented Reality as Innovation Tool in Digital Tourism Marketing”, in the book *Global Dynamics in Travel, Tourism and Hospitality*, and “The Augmented Reality Marketing: a Merger of Marketing and Technology in Tourism” in the book *Mobile computing and Wireless Network* and “Augmented Reality adoption by Tourism Product and Service Consumers: Some Empirical Findings” in the book “Augmented Reality and Virtual Reality.” The second most influential author in this area is Rahimi R with 4 published papers and high h-index. However the most cited authors are Chylinski, M., De Ruyter, K., Hilken, T., Keeling DI and Mahr, D. with maximum 367 citations.

Table 5: Most Influential Authors

Element	h_index	g_index	TC	NP	PY_start
HASSAN A	4	8	66	10	2015
CHYLINSKI M	3	3	367	3	2017
DE RUYTER K	3	3	367	3	2017
HILKEN T	3	3	367	3	2017
KEELING DI	3	3	367	3	2017
MAHR D	3	3	367	3	2017
RAHIMI R	3	4	43	4	2016
AYDIN S	2	2	4	2	2022
HAMARI J	2	2	7	2	2022
HEBBEL-SEEGER	2	2	26	2	2012
HUANG TL	2	2	198	2	2014
JĘDRASIAK K	2	4	30	4	2014
KAHRAMAN C	2	2	4	2	2022
LAATO S	2	2	12	2	2021
LOUREIRO SMC	2	3	11	4	2020
NAWRAT A	2	3	11	3	2016
SOBEL D	2	2	21	2	2014
TEKIN O	2	2	13	2	2017

ABRAHAM C	1	1	22	1	2018
ACEVEDO-CHEDID J	1	1	3	1	2021
ADEMOĞLU MO	1	1	1	1	2019
AEDO I	1	1	13	1	2021
AGARWAL M	1	1	4	1	2017
AHIAA	1	1	10	1	2022
AHMAD Z	1	1	1	2	2020

Table 6: Countries with most publications and Citations

Countries	Most Publications	Countries	Most Citations
UK	54	ITALY	387
USA	41	NETHERLANDS	299
PORTUGAL	30	CHINA	263
TURKEY	30	GREECE	255
CHINA	25	GERMANY	222
INDIA	24	HONG KONG	123
GREECE	22	AUSTRALIA	98
FINLAND	21	MALAYSIA	89
GERMANY	19	UNITED KINGDOM	89
ITALY	19	POLAND	53

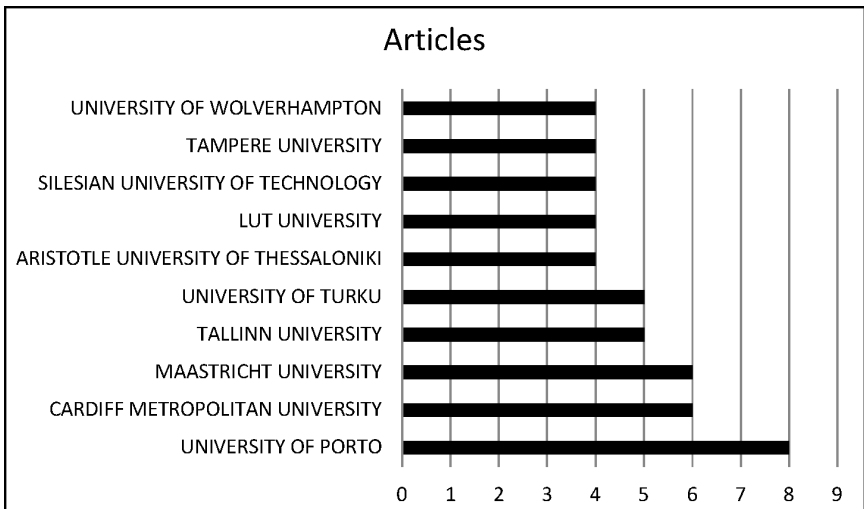


Figure 5: Most Relevant Research Institutions

Table 6 provides the information regarding the top 10 countries' contribution on the topic of research. The countries contributed maximum publication and countries which are cited maximum are listed in the table. It is observed that UK and USA published maximum article on the topic followed by Portugal and Turkey. Whereas the most cited countries for the work done in this area are Italy, Netherlands and China.

Table 7: Most Globally Cited Document

Paper	DOI	Total Citations	TC per Year	Normalized TC
MORTARA M, 2014, J CULT HERITAGE	10.1016/j.culher.2013.04.004	317	31.70	5.89
STYLIANI S, 2009, J CULT HERITAGE	10.1016/j.culher.2009.03.003	242	16.13	2.00
HILKEN T, 2017, J ACAD MARK SCI	10.1007/s11747-017-0541-x	240	34.29	10.11
STEINHOFF L, 2019, J ACAD MARK SCI	10.1007/s11747-018-0621-6	163	32.60	15.52
CAI YJ, 2020, INT J PROD ECON	10.1016/j.ijpe.2020.107729	123	30.75	10.74
HUANG TL, 2014, INTERNET RES	10.1108/IntR-07-2012-0133	107	10.70	1.99
RATTEN V, 2020, J ENTERPRISING COMMUNITIES	10.1108/JEC-06-2020-0121	98	24.50	8.56
HUANG TL, 2017, INTERNET RES	10.1108/IntR-11-2015-0321	91	13.00	3.83
CHYLINSKI M, 2020, AUSTRALAS MARK J	10.1016/j.ausmj.2020.04.004	70	17.50	6.11
SKILTON M, 2017, THE 4TH IND REVOLUT: RESPONDING TO THE IMPACT OF ARTIF INTELL ON BUS	10.1007/978-3-319-62479-2	60	8.57	2.53
HILKEN T, 2020, J ACAD MARK SCI	10.1007/s11747-019-00688-0	57	14.25	4.98
GHAZALI EM, 2019, INTERNET RES	10.1108/IntR-12-2017-0505	51	10.20	4.86
GOYAL S, 2021, STUD SYST DECIS CONTROL	10.1007/978-3-030-55833-8_2	43	14.33	6.51
CH'NG E, 2019, J CULT HERITAGE	10.1016/j.culher.2018.11.016	40	8.00	3.81
SHAHAB MH, 2021, INT J CONSUM STUD	10.1111/ijcs.12658	38	12.67	5.75

Figure 5 shows the 10 most relevant research institutions on the basis of maximum number of articles published on the key words “Meta-verse” and “Augmented Reality”. It is observed from the figure that the University of Porto has contributed maximum 8 documents followed by Cardiff Metropolitan University and Maastricht University with 6 documents.

The Meta-verse and Augmented Reality is a technological innovation which is gaining importance as an area of interest for the researchers across many countries. Therefore the authors cross borders are collaborating their efforts to explore its prospects and future challenges. Figure 6 shows the countries which are collaborating on the topic under research. It is observed from the figure that maximum collaboration is done by UK and Australia with maximum 4 projects, and UK and Netherlands with 4 Projects followed by USA and Germany with 3 projects.

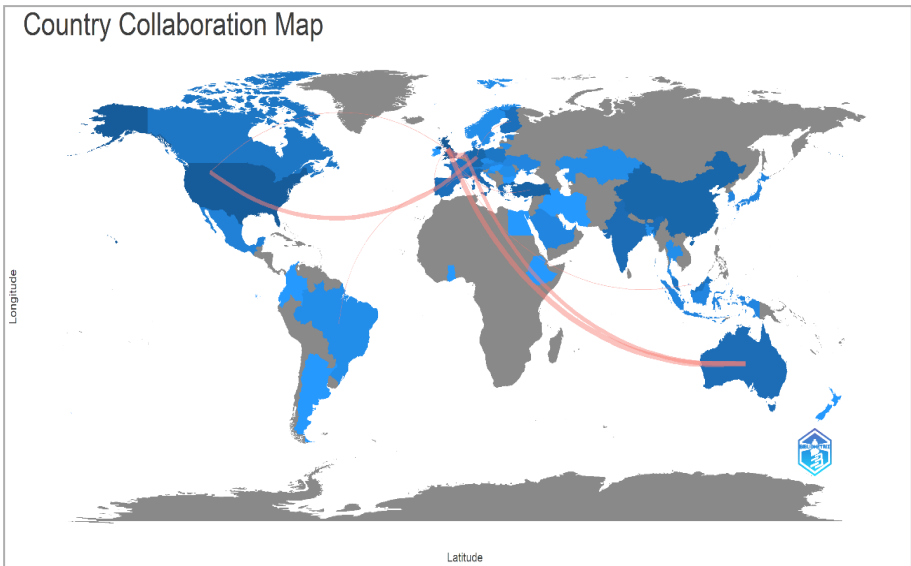


Figure 6: Country Collaboration Map

The last section of manuscript describes the Co-citation analysis on the basis of number of times papers are cited together in different studies. In this analysis we assume that the papers which are cited together belong to the same subject. After performing co-citation analysis on the available data in Biblioshiny, 4 clusters have been received as output.

Using Machine Learning Techniques for Employees' Attrition Prediction

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Abstract

Proficient employees are considered as the valuable assets and pillars of any organization. Organizations spend a lot in employees' training programs considering that they would provide good returns in the future. Hence, it is essential to retain a long-term promising workforce; which has become one of the difficult tasks for HR as observed in past decades. This study is an attempt to figure out the main causes influencing attrition and to develop a machine learning model for predicting employee's attrition on the basis of given factors. This will assist the management to identify employees who are expected to leave; thereby taking preventive actions and making effective decisions regarding appraisal and recognition. This work has used three most widely used classification algorithms – KNN, Naïve Bayes and Random Forest and it has been observed that Naïve Bayes classifier produces more accurate predictions and outperform others by 9% in terms of accuracy.

Keywords – Employee Attrition, Machine Learning Classifiers, SVM, KNN, Naïve Bayes

Introduction

In the present times, managing employees' retention rate in an organization is considered as one of the challenging and imperative tasks done by the HR departments [1][3]. It has become an important issue in organizations due to its pessimistic impacts on organization's reputation and its success. The main challenges often faced by organizations in case of high retention rates are listed below:

- Substituting experienced workers cost significant resources in terms of hiring expenses and training new employees [2]
- Loss of explicit knowledge and social relationships (or professional bonding)
- Productivity is negatively affected.
- Profits and companies' annual turnovers are also affected negatively.
- Confidence and morale of the other employees get poorly affected
- Training and adding experience to new employees is an add-on task.

There are several factors that contribute lower retention rates in the organizations, such as better opportunities in terms of promotions and growth; completion of contracts or age of retirement; negative forces such as biased performance appraisal; lack of job security & flexibility; personal problems or unavoidable circumstances like health issues etc. Some of the causes not only negatively affect organization, they also affect employee such as they undergo huge pressure & stress in finding new job, effect on family life & career etc [9].

It is apparent from the discussion that it is very much crucial for the organizations to adopt effective and wise strategies to decrease employee turnover which would minimize the risks of getting all the negative consequences which are discussed above. HR departments put their lots of efforts to maintain organization's value by strengthening its workforce through better decision making [4]. Hence they often rely on data-driven decisions which lead to better HR analytics, which in turn reflects organization's value and growth [5]. Data analytics is the branch of computer science that promotes decision-making on the basis of data analysis. These days, most of the businesses are taking benefits from data analytics to promote their brand value, strengthen customer relationship, increase value of their products etc. HR departments are also leveraging it as it has the potential to uplift the organization's value and provide good services to the employees for increased turnover. Data analytics may also assist in predicting employee's attrition based on some factors [16]. A simple solution for data analytics is using machine learning (ML).

Machine learning is a technology that allows algorithms to predict outcomes accurately by learning past data as input. By exploiting statistical tools and algorithms, machine learning models can be built to make predictions or classifications, and to discover key insights in data analytics domain [6][17]. These insights subsequently drive decision making within

applications and businesses, ideally impacting key growth metrics. ML models which have been used for HR analytics were often traditional models such as the logistic regression which often produce inconsistent results. In this paper, we exploit supervised machine learning models to predict employee's attrition due to the increased accuracy and efficiency of ML to solve problems [7][8].

The main contributions of this study are:

- Various factors influencing employees' attrition are studied.
- Machine learning algorithms used for classification problems are used to predict whether with the given factors employee is expected to leave
- Using accuracy estimation tools, the models are measured for accuracy and the best performing classifier is recommended to be used by employers.

Related Work

There are many studies that focus various factors that cause high employee attrition rates. Other set of studies tried to predict employee attrition based on various features of an employee using data analytic and machine learning models. This section highlights some of those studies to give an idea of what different techniques have been used by researchers and what were the outcomes.

Renuka A. et al [5] employed CRISP-DM and data mining techniques to envisage the performance of employees [3]. They built a classification model using decision trees to generate different classification rules. Rohit P. et al [13] explored XGBoost [11] (Extreme Gradient Boosting) for predicting employee attrition and compared its performance with other supervised learning approaches. It was demonstrated that XGBoost gave better accuracy than others. Hong et al [8] employed two regression models Logit (Logistic) and Probit (Probability) to predict employee turnover and observed that Logistic regression model performed better. Nagadevara et al [9] studied withdrawal behavioral aspects of employee that affect turnover like absenteeism, lateness, unnecessary leaves, job content, tenure etc. and implemented various machine learning models like logistic regression, Classification and Regression Trees (CART), classification trees (C5.0), and discriminant analysis for employee attrition prediction and found that CART outperformed all others. Another study to assess different machine learning models for predicting employee attrition was presented by Alao et al [14]. in his study analyzed employee attrition using multiple decision

tree algorithms C4.5, C5, REPTree & CART. They generated five different decision tree models and two rule sets. Zhao et al. [15] implemented various algorithms for predicting employee turnover prediction. The datasets belonged to different organizations ranging from small, medium, and large sized. It was observed that no algorithm performed well in small dataset. The extreme gradient boosting [8][11] trees achieved higher accuracy for medium sized datasets, while the gradient boosting trees outperformed all others for large sized organizations.

Methodology

Building a machine learning (ML) model for a given problem statement goes through three main stages – data preprocessing, training a model and estimate it for its accuracy. This section discusses briefly the methodology adopted to carry out this work and data set used. Figure 1 depicts the methodology used in this paper.

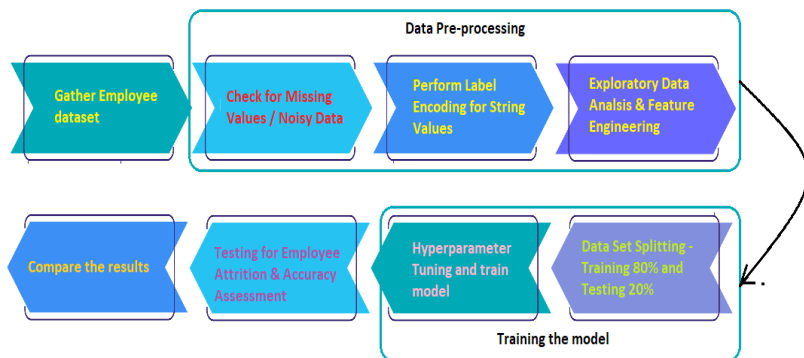


Figure 1: Methodology used in this study

The Employee Attrition dataset consists of 14710 records of employees with 13 columns including one dependent variable. The last feature ‘Attrition’ is the actual dependent variable (or target) for which models need to be built. The entire description of the dataset is given in Table 1.

Table 1: Details of Dataset used

Feature	Data type	Range of values	Remarks
Age	Integer	18-60	Age of employee
Department	String		Department of work
Distance from home	Integer	1-30	In miles
Education	Integer	1-5	1-Below College; 2-College; 3-Bachelor; 4-Master; 5-Doctor

(Contd...)

Education Field	String	Technology/Science/Medical/etc	
Environment	Integer	1- 4	1-Low; 2-Medium; 3-High; 4-Very High;
Job satisfaction	Integer	1- 4	1-Low; 2-Medium; 3-High; 4-Very High
Marital Status	String	Single/Married/Divorced	
Monthly Income	Integer	1000-20000	
No of companies worked	Integer	0-10	Number of companies worked prior to IBM
Work Life Balance	Integer	1- 4	1-Bad; 2-Good; 3-Better; 4-Best
Years At Company	Integer	0-40	Current years of service in IBM
Attrition	String	Yes / No	Target / Dependent Variable

The dataset comprised of four string columns and 9 numeric columns. As most of the machine learning algorithms accept only numerical data to build models, so we used encoding technique to covert categorical features into numerical ones. For this purpose, we employed label encoding method instead of one-hot encoding as label encoding does not create or add new columns in the dataset. Next, we also scanned the entire dataset for any missing values and inconsistencies and handled them properly. Few columns were renamed too. As a part of data preprocessing, the dataset was split into 80:20 i.e. 80% for training the model and remaining 20% for testing purpose. At last, feature analysis was done before building models in order to identify relationship among different features in the dataset. Few results of the analysis are shown in Figure 2 and 3.

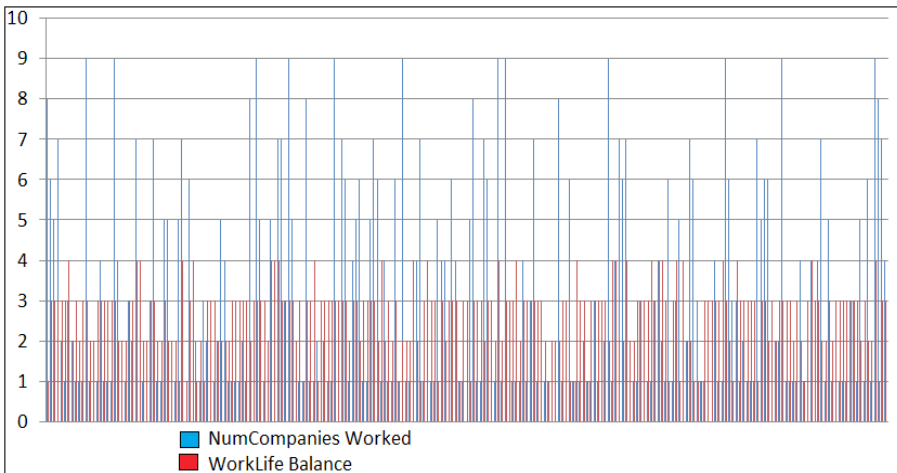


Figure 2: Relationship between No. of Companies Worked and Work life balance

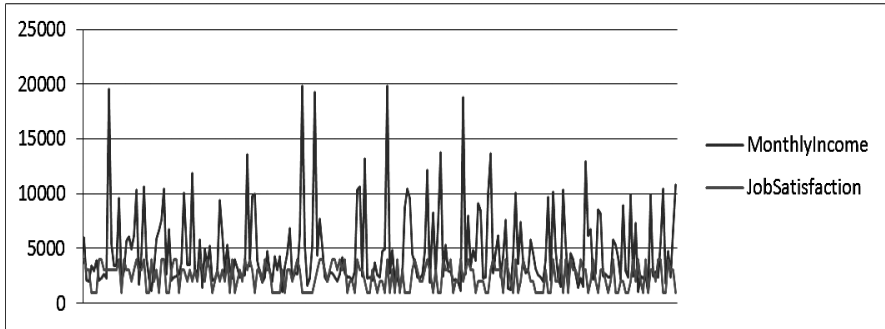


Figure 3: Relationship between Monthly Income and Job Satisfaction

From the figures, it is clear that the employees switching the companies frequently have poor life balance and even though the salary at some of the companies is high still the job satisfaction remain poor. It means low salary is not the only criteria for employee attrition. There can be other reasons also like type of job, working environment, duration of work etc.

Machine Learning Approaches

This study employed the three most prominent supervised machine learning classifiers – K-Nearest Neighbor (KNN), Naïve Bayes (NB) and Random Forest (RF) as they are considered as the best classifiers for classification and regression problems. KNN and NB are said to perform well on binary classification problems as Employee Attrition where the predictions are binary in nature. This section discusses the working of these classifiers briefly.

K-Nearest Neighbour - KNN is one of the simple and most widely used classification algorithms in Machine Learning domain. It finds its place under supervised learning where a model is trained on labeled set of data and it is expected to predict the label of test data. KNN is majorly used in pattern recognition, classification problems (such as fraud detection or spam emails) and intrusion detection. KNN is non-parametric as it doesn't make any underlying hypothesis assumption on the distribution of data being studied. It works on proximity of data points i.e. when a new data point needs to be grouped it finds its class by measuring the distance with the nearest data points and places it in the class with the minimum distance. The value of 'k' indicates numbers of neighbors, for which distance must be calculated. Figure 4 illustrates its working with 3 data points, as neighbors of the new data point.

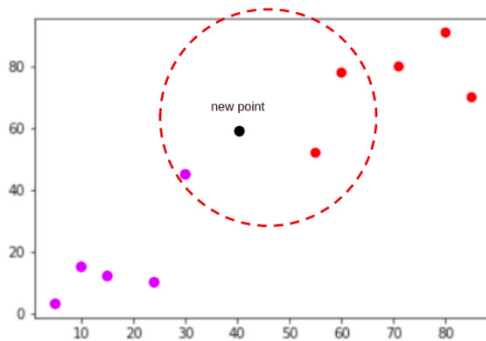


Figure 4: KNN classification with k=3

Naïve Bayes – Probability is the base for the Naive Bayes algorithm. This classifier works by on the concept of probability and learns the probability of every data point (or object), its features, and the class it belongs to. Therefore, it is also known as a probabilistic classifier. Probability helps to predict an event's occurrence out of all the possible outcomes. Bayes Theory works on coming to a hypothesis (H) from a given set of evidence (E). It relates to two things: the probability of the hypothesis before the evidence $P(H)$ and the probability after the evidence $P(H|E)$.

Random Forest – As the name indicates, random forest is made up of multiple decision trees on various subsets of the given dataset. This algorithm considers the average of all the subsets to improve the accuracy of prediction on the dataset. The main working principle of this algorithm is ensemble learning, a process of combining several classifiers into a forest to solve a complex problem in order to improve the performance of the model. Ensemble learning follows two methods:

- Bagging: It refers to creating a different training subset from sample training data with some substitutions. The final outcome is based on majority voting.
- Boosting: It refers to merging of weak learners into strong learners by creating sequential models such that the final model has the highest accuracy.

Results & Discussion

The models were trained on training data set and tested on test bed which was kept aside and was not part of training data. The models were evaluated on the basis of their accuracy and other assessment metrics like recall, precision and f1-score. On the basis of the experiments which were

executed multiple times, the best outcomes were taken for comparison and evaluation purpose.

Table 2: Comparison of classifiers in employee attrition prediction

	Precision	Recall	F1-Score	Support
KNN				
Attrition: No	0.85	0.92	0.89	251
Attrition: Yes	0.14	0.07	0.09	43
Average	0.495	0.495	0.49	
RF				
Attrition: No	0.81	0.98	0.88	234
Attrition: Yes	0.50	0.08	0.14	60
Average	0.655	0.53	0.51	
NB				
Attrition: No	0.91	0.96	0.94	263
Attrition: Yes	0.41	0.23	0.29	31
Average	0.595	0.615	0.595	

Table 2 shows the results of experiments and a comparison made on accuracy estimation metrics. Naïve Bayes classifier produced best results as its precision and F1-score values are higher than other two classifiers. The accuracy results are shown in Figure 5 which shows that NB achieved 88% accurate results in prediction, whereas KNN achieved 79% & RF achieved lowest accuracy with 78% accurate predictions.

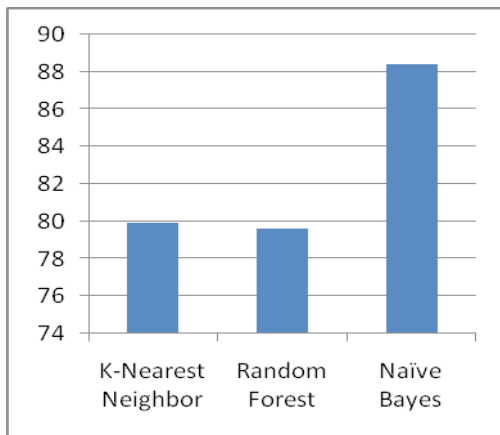


Figure 5: Accuracy achieved by classifiers

Conclusion

Retaining experienced employees in an organization has become a big issue for HR departments and they are seeking for better solutions to overcome this problem. Employee attrition can cost organizations a lot as it takes a lot to compensate for their expertise and efficiency. In this paper, we implemented different machine learning classifiers to predict employee attrition based on given factors. This would assist employers to predict target employees who are likely to leave and thus employers can take preventive measures to not let this happen. We build models using KNN, RF and NB classifiers and found that Naïve Bayes outperform others by 9% in terms of accuracy. This model was pretty much accurate on our dataset and adequately satisfied the intended goal.

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Assessing the Evolving Connection between Oil Prices and BRICS Stock Markets amidst the COVID-19 Pandemic

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Abstract

The outbreak of COVID-19 originating in Wuhan, China, has had a profound impact on global financial markets, commodity markets, economic activities, employment, and the GDP of countries. Economic lockdowns implemented worldwide in response to the pandemic have disrupted supply chains and significantly reduced oil consumption, leading to a sharp decline in crude oil prices on the international market. This study examines the dynamic relationship between oil price movements and stock markets in BRICS countries, focusing on the period from January 5, 2015, to November 13, 2020. The analysis employs the VAR (vector auto regression) and VDA (variance decomposition analysis) models, dividing the study period into pre-COVID-19 (January 5, 2015, to January 30, 2020) and post-COVID-19 (January 31, 2020, to November 13, 2020) intervals. The findings reveal a significant shift in the interplay between oil prices and stock market indices due to COVID-19. Prior to the pandemic, oil prices were influenced by variations in stock market indices, while in the post-COVID-19 period, stock market indices are influenced by changes in oil prices.

Keywords: *Oil price; Stock market; BRICS; COVID-19*

Introduction

Since December 2019, when the outbreak of the highly contagious COVID-19 virus emerged in Wuhan, China, the world has been gripped

by panic. The rapid spread of the virus between February and March 2020 led the World Health Organization (WHO) to declare it a global pandemic. This health crisis has not only affected public health but also had profound financial implications worldwide. The impact of COVID-19 has reverberated through global financial markets, commodity markets, economic activities, employment, and the Gross Domestic Product (GDP) of nations. According to the International Monetary Fund (IMF), the global economy contracted by -3 percent in 2020, surpassing the severity of the Great Financial Recession of 2008.

Governments have implemented three significant measures—lockdowns, travel bans, and stimulus packages (Phan and Narayan, 2020)—in an attempt to mitigate the effects of COVID-19. These actions have caused a decline in global trade estimated to range from 13% to 32% (WHO, 2020). As a consequence, the reduced global demand for oil has led to a drastic plunge in crude oil prices on the international market, dropping from USD 61 on January 2, 2020, to USD 12 on April 28, 2020.

Though, it is observed that COVID-19 is not the only reason for oil price decline. Another reason is the oil price war between Russia and Saudi Arabia. The unexpected decision of Saudi authorities to offer price discounts of \$6 to \$8 to Europe, Asia, and the U.S., resulted from a 30% fall in global crude oil price, which is the most massive slump since the Gulf war 1991 (Sharif et al. 2020; Schneider and Domonoske, 2020). Still, we cannot downplay the effect of the COVID-19 on oil price volatility

Devpura and Narayan (2020) conducted a study using hourly data of oil prices and COVID-19 and found that 22% of the daily volatility in oil prices can be attributed to the pandemic. Other research has also indicated that COVID-19 has a significant indirect negative impact on the oil price market through increased financial market volatility (Albulescu, 2020). Furthermore, studies have shown a positive relationship between COVID-19 cases and financial market volatility (Albulescu, 2020).

The global stock markets have also been profoundly affected by the COVID-19 outbreak. Developing countries such as the United States experienced a 32% decline in stock prices, while the United Kingdom saw a 27.9% drop, and Italy faced a significant decline of 39.3%. Even emerging economies were not spared, with Brazil experiencing a decline of 40.5%, Russia 24.2%, and China facing a decline of percent. Throughout the pandemic, stock markets have exhibited high levels of volatility, resulting in a cumulative loss of 12.35% in market value (Salisu, 2020).

Ashraf (2020) conducted a study across 64 countries and found an inverse relationship between stock market returns and the number of COVID-19 cases within a country.

From the above discussion, it is evident that COVID-19 has had a substantial impact on both oil price movements and stock market indices. Further research is needed to delve into the financial implications of COVID-19. This study aims to explore the effect of COVID-19 on the dynamic relationship between oil price movements and the stock markets of BRICS countries. The underlying assumption is that oil plays a fundamental role in the production process of most companies, therefore changes in oil prices have cascading effects on costs, earnings, dividends, and stock prices.

The BRICS countries, namely Brazil, Russia, India, China, and South Africa, are emerging economies that are steadily growing and projected to have a significant influence on the global economy (B.P. Statistical Review of World Energy). Each of these countries plays a distinct role in the global oil market. According to the World Fact Book, China, India, and South Africa rank first, third, and 22nd, respectively, in terms of oil imports, while Russia and Brazil rank second and 24th, respectively, as oil-exporting countries. The varying degrees of oil dependency in the global oil market among the BRICS countries would lead to different impacts of oil price shocks on their respective stock markets (Le, 2015).

Research suggests that approximately 20-30% of the variations in international stock market returns can be attributed to oil price shocks (Wang, 2013). The fluctuations in global stock market returns in response to these oil price shocks also influence the stock markets of the BRICS countries. Studies have shown a positive and significant relationship between global stock market returns and the returns of the BRICS stock market (Mensi, 2014). This indicates that changes in global stock market performance have a notable impact on the stock markets of the BRICS countries.

Theoretically, the existence of the relationship between oil price and stock returns is through various channels:

- Oil is the basic input of production in most of the firms, and therefore any change in oil price leads to changes in costs, earnings and dividends and hence stock prices (Basher et al., 2012; Rafailidis and Katrakilidis, 2014; Salisu and Isah, 2017; Smyth & Narayan, 2018; Salisu, Swaray & Oloko, 2019).

- Change in oil price influences the expense behavior of consumers that will affect the probability of other goods and services and hence, affect these companies' stock prices (Barsky and Kilian, 2004).
- Foreign direct investment and oil price have a positive relationship, when oil price increases oil-rich countries invest in emerging countries and when oil price decreases they withdraw their investment that will result in a negative impact on the stock market, so the collapse in oil prices allied with COVID-19 requires an analysis of the oil-stock dynamics.

The subsequent sections of this paper are structured as follows: Section 2: Literature Review - This section provides an overview of the existing literature on the subject matter. Section 3: Research Data and Methodology - In this section, the data used for the study and the methodology employed are described. Section 4: Empirical Results - The empirical findings of the research are presented and analyzed in this section. Section 5: Conclusion and Implications - This section discusses the main conclusions drawn from the study and explores the implications of the findings. By following this organizational framework, the paper aims to present a comprehensive analysis of the impact of COVID-19 on the dynamic linkage between oil price movements and the stock markets of the BRICS countries

Literature Review

Numerous prior studies have generally supported a significant relationship between oil prices and the stock market (Jones and Kaul, 1996; Miller and Ratti, 2009; Papapetrou, 2001; Park and Ratti, 2008; Sadorsky, 2001). However, some studies have indicated that oil price fluctuations primarily affect the stock returns of oil companies rather than broad market indices such as the S&P 500 (Huang, 1996; Cong, 2008). In contrast, other studies (Kaul and Seyhum, 1990; Papapetrou, 2001; Hong et al., 2002; Park and Ratti, 2008) suggest a negative relationship between oil prices and stock market returns, while another group of studies (Sadorsky, 2001; Yurtsever and Zahor, 2007; Gogineni, 2008) propose a positive relationship between oil prices and stock prices.

Previous research has also explored the connection between oil prices and the stock market from the perspective of oil-importing and oil-exporting countries, revealing that the impact of oil price shocks on the stock market's magnitude, direction, and extent depends on whether a country is an oil-importer or oil-exporter (Wang, 2013; Chang, 2015).

Studies by Ono (2014) and Yıldırım (2018) have examined the relationship between oil prices and stock returns in Brazil, China, India, and Russia using the VAR and MS-VAR models, respectively. Ono found a positive relationship between oil prices and real stock returns for all countries except Brazil, while Yıldırım observed a positive response of the Russian and Indian stock markets to oil price shocks, with China showing a different pattern.

Recent studies have investigated the impact of the COVID-19 outbreak on the relationship between oil prices and the stock market. Hung (2020) found notable effects on return spillovers and dynamic time-frequency linkages between crude oil prices and developed stock markets in Europe. Sakurai (2020) discovered that after the announcement of COVID-19, positive oil price shocks had a more favorable impact on the stock market compared to negative shocks, while Salisu (2020) suggested that the probability of negative oil and stock returns was higher before the COVID-19 announcement.

HC Bjornland (2009) utilized the SVAR model on data from exporting countries and identified a positive relationship between oil prices and the stock market. Following the COVID-19 outbreak, the positive relationship between oil prices and the stock market in net oil-exporting countries significantly strengthened (Prabheesh, 2020). Conversely, Cunado (2015) examined monthly data from 1973 to 2011 for 12 oil-importing European economies and found a negative relationship between oil prices and the stock market. However, after the COVID-19 outbreak, the relationship between oil prices and the stock market in oil-importing countries turned positive (Prabheesh, 2020).

Notably, none of the previous studies have specifically focused on analyzing how the COVID-19 outbreak affects the relationship between oil price movements and stock markets in emerging countries. Most earlier studies primarily concentrated on developed countries. Therefore, the current paper represents the first attempt to explore the impact of the recent spread of COVID-19 on the dynamic linkage between oil price movements and the stock market in BRICS countries.

Research Data and Methodology

This paper utilizes daily data from two primary sources to analyze the dynamic relationship between West Texas Intermediate (WTI) crude oil prices and the stock markets of the BRICS countries. The data is collected from the Energy Information Administration (EIA) for WTI crude oil prices expressed in US dollars. Additionally, stock market data from five major BRICS countries is obtained from Yahoo Finance. The specific stock market

indices considered in this study are the Sao Paulo Stock Exchange Index (IBOVESPA) for Brazil, Russia's Russell 2000 (RUT), the Shanghai Stock Market composite index (SSE) for China, India's NIFTY 50 Index (Nifty), and the FTSE/JSE Africa Index (FTSJ) for South Africa.

The analysis focuses on two distinct periods: the pre-COVID-19 period, spanning from January 5, 2015, to January 30, 2020, and the COVID-19 period, covering January 31, 2020, to November 13, 2020. These sub-periods allow for a comparison of the dynamic relationship between oil prices and the stock markets before and after the World Health Organization's announcement of the COVID-19 outbreak on January 30, 2020. The overall examination period provides a comprehensive analysis of the data and allows for the assessment of any changes in the relationship between oil prices and stock markets during the COVID-19 pandemic.

For the analysis in this paper, the Eviews 9 software is employed. Eviews 9 offers various features and tools that facilitate descriptive analysis, time plot visualization, Vector Auto Regression (VAR) estimation, and Variance Decomposition Analysis (VDA). These techniques are utilized to explore the data, estimate the relationships between variables, and assess the impact of oil price movements on the stock markets of the BRICS countries.

Descriptive analysis involves summarizing and examining the characteristics of the data, providing insights into the central tendencies, dispersion, and distribution of the variables under investigation. Time plots are utilized to visualize the patterns and trends in the data over time, enabling a better understanding of the behavior of oil prices and stock market indices.

The Vector Auto Regression (VAR) estimation is employed to estimate the dynamic relationship between oil prices and stock market indices. VAR models capture the interdependencies and interactions between multiple variables over time, allowing for the assessment of the impact of oil price movements on the stock markets.

Variance Decomposition Analysis (VDA) is applied to analyze the contribution of oil price shocks to the variability in stock market indices. This technique quantifies the extent to which changes in oil prices explain the fluctuations observed in the stock market.

Data Analysis and Interpretation

The descriptive analysis of the oil price and stock indices of the BRICS nations. The average oil price is \$50.92 per barrel during the selected time,

with a minimum \$12.17 and a maximum price of \$ 77.41 per barrel. The average oil price during the pre-COVID- 19 period is \$ 53.16 per barrel with a minimum price of \$ 26.68 and a maximum price of \$ 77.41 per barrel. The average oil price during the post-COVID-19 period is \$ 36.86 per barrel with a minimum price of \$ 26.68 and a maximum price of \$ 53.77 per barrel. The average return of stock indices of each of BRICS countries (i.e. IBOVESPA, RUT, NIFTY, SSE, FTSJ) for entire period is 74465.30, 1402.13, 9811.95, 3159.08 and 357.68 respectively with minimum of 37645.00, 971.99, 6970.60, 2464.36 and 231.00 and maximum of 119528.0, 1744.04, 12749.15, 5166.35 and 491.97. The average return of stock indices of each of BRICS countries for the pre- COVID-19 period is 71263.63, 139425, 9223.37, 3170.77 and 364.97 with a minimum of 37645.00, 971.99, 6970.60, 2464.36 and 265.00 and maximum of 119528.00, 971.99, 12749.15, 5166.35 and 491.97. The average return of stock indices of each of BRICS countries for the pre- COVID-19 period is 71263.63, 139425, 9223.37, 3170.77 and 364.97 with a minimum of 37645.00, 971.99, 6970.60, 2464.36 and 265.00 and maximum of 119528.00, 971.99, 12749.15, 5166.35 and 491.97. The average return of stock indices of each of BRICS countries for the post COVID-19 period is 94652.68, 1451.42, 9223.37, 3090.40 and 311.78 respectively with a minimum of 63570, 991.16, 7610.25, 2660.16 and 231.00 and maximum of 63570, 1744.04, 12749.15, 3451.08 and 366.00.

The multivariate causality among the selected time series, namely oil price and BRICS stock indices, is examined using the VAR method. The presence of the unit root is examined in the included series and transformed to the stationary series. The VAR method assumes each of the included series as endogenous in the system of equations, and the causality relationship is examined from the remaining endogenous variables in the VAR system. The endogenous variable is regressed with the other series' lagged values to examine the lead-lag relationship. The VAR method also overcomes the issues of pairwise causality and indirect causality of the Grangers causality test. In the VAR method, the block exogeneity test examines the lead-lag relationship between the included variables. In the VAR system, the lagged values' lag order is chosen carefully with the help of different VAR order selection criteria. In the study, we have adopted the lag length of 2 lags as in the case of the entire period, 3 in the pre-COVID-19 period, and 2 in the post-COVID-19 period suggested by the S.C. criteria H.Q. criteria for the VAR approach. The VAR approach results or the Block exogeneity Wald test for the pre-COVID-19 and post-COVID-19 periods are shown below.

The Block exogeneity approach (Wald Test) confirms the presence of a significant multivariate causal relationship in the direction of oil prices to the different stock market indices. IBOVESPA is influenced by the lagged price movement of crude oil in the post COVID-19 period (Chi-Square = 13.79208, p-value = 0.000). SSE is influenced by the lagged price movement of crude oil in the pre COVID-19 period (Chi-Square = 18.29423, p-value = 0.000). FTSJ is influenced by the lagged price movement of crude oil in the post COVID-19 period (Chi-Square = 15.66070, p-value = 0.000). Also, there exists a multivariate causal relationship between different stock indices. RUT's lagged price movement influences IBOVESPA in the pre COVID-19 period (Chi-Square = 13.54833, p-value = 0.000). NIFTY is influenced by the lagged price movement of RUT in pre COVID-19 period (Chi-Square = 24.50757, p-value = 0.000) and by IBOVESPA in post COVID-19 period (Chi-Square = 8.047303, p-value = 0.000). RUT is influenced by the lagged price movement of IBOVESPA in pre COVID-19 period (Chi-Square = 14.34420, p-value = 0.000) and also in post COVID-19 period (Chi-Square = 20.85337, p-value = 0.000). SSE is influenced by the lagged price movement of NIFTY (Chi-Square = 31.93261, p-value = 0.000) and RUT (Chi-Square = 30.73653, p-value = 0.000) in pre COVID-19 period. SSE is influenced by the lagged price movement of NIFTY (Chi-Square = 13.14193, p-value = 0.000) in the post-COVID-19 period. FTSJ is influenced by the lagged price movement of IBOVESPA in the post COVID-19 period (Chi-Square = 42.97680, p-value = 0.000). However, the multivariate causal relationship in the direction of the different stock market indices to oil prices explained that oil price is influenced by FTSJ's lagged price movement (Chi-Square = 9.865795, p-value = 0.000) and RUT (Chi-Square = 10.27790, p-value = 0.000) in pre COVID-19 period only.

The Block exogeneity approach (Wald Test) confirms the presence of a significant multivariate causal relationship in the direction of oil prices to the different stock market indices. IBOVESPA is influenced by the lagged price movement of crude oil in the post COVID-19 period (Chi-Square = 13.79208, p-value = 0.000). SSE is influenced by the lagged price movement of crude oil in the pre COVID-19 period (Chi-Square = 18.29423, p-value = 0.000). FTSJ is influenced by the lagged price movement of crude oil in the post COVID-19 period (Chi-Square = 15.66070, p-value = 0.000). Also, there exists a multivariate causal relationship between different stock indices. RUT's lagged price movement influences IBOVESPA in the pre COVID-19 period (Chi-Square = 13.54833, p-value = 0.000). NIFTY is influenced by the lagged price movement of RUT in pre COVID-19 period (Chi-Square

= 24.50757, p-value = 0.000) and by IBOVESPA in post COVID-19 period (Chi-Square = 8.047303, p-value = 0.000). RUT is influenced by the lagged price movement of IBOVESPA in pre COVID-19 period (Chi-Square = 14.34420, p-value = 0.000) and also in post COVID-19 period (Chi-Square = 20.85337, p-value = 0.000). SSE is influenced by the lagged price movement of NIFTY (Chi-Square = 31.93261, p-value = 0.000) and RUT (Chi-Square = 30.73653, p-value = 0.000) in pre COVID-19 period. SSE is influenced by the lagged price movement of NIFTY (Chi-Square = 13.14193, p-value = 0.000) in the post-COVID-19 period. FTSJ is influenced by the lagged price movement of IBOVESPA in the post COVID-19 period (Chi-Square = 42.97680, p-value = 0.000). However, the multivariate causal relationship in the direction of the different stock market indices to oil prices explained that oil price is influenced by FTSJ's lagged price movement (Chi-Square = 9.865795, p-value = 0.000) and RUT (Chi-Square = 10.27790, p-value = 0.000) in pre COVID-19 period only.

FTSJ, RUT and IBOVESPA respectively. In case of RUT, the variances explained due to its own lagged values decreased by 39% and increased by 6%, 5%, and 4% from IBOVESPA, FTSJ, and oil price. IBOVESPA also changes extremely in the post COVID-19 period to its own lagged value, decreasing by 49% and increasing by 23%, 10%, and 7% by NIFTY, RUT and oil price. However, Oil Price decreases by lagged value of IBOVESPA and RUT by 5% and 2% respectively and increases by 3% from FTSJ and 2% from its own lagged value in the post COVID-19 period.

Conclusion

The research paper you described examines the impact of the COVID-19 pandemic on the relationship between crude oil price movements and stock market returns in BRICS nations (Brazil, Russia, India, China, and South Africa) using a VAR (Vector Autoregression) model. The study focuses on two periods: the pre-COVID-19 period from May 4, 2018, to January 30, 2020, and the COVID-19 period from January 31, 2020, to April 30, 2020

Before the COVID-19 outbreak, the study finds that variations in stock market indices had an influence on oil price movements, indicating a relationship between the two markets. However, during this period, oil price movements did not have a significant influence on stock market indices. Additionally, most of the stock market indices in BRICS nations were influenced by each other, except for China's stock market.

After the COVID-19 outbreak, the dynamics changed significantly. The study reveals that changes in oil prices had a significant impact on stock

market indices in BRICS nations during this period. However, stock market variations did not exert a considerable influence on oil prices. This shift in the relationship between oil prices and stock markets suggests a change in market dynamics caused by the COVID-19 pandemic

The paper highlights the importance of this research, as it provides valuable information for risk management and decision-making by policymakers. Understanding the connection between crude oil price movements and stock markets is crucial for constructing portfolios, asset pricing, and making informed decisions for global investors.

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Virtual Reality as Growing Need at Workplace for Learning and Employee Training

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Abstract

Virtual reality (VR) technology is a promising tool and is being used for learning and training in recent years. This review paper aims to examine the effect of VR on learning and training outcomes, and to identify the key factors that contribute to its effectiveness. A systematic review of the literature was conducted, and few studies that met the inclusion criteria were analyzed. The results indicate that VR has a positive impact on learning and training outcomes, particularly in terms of gaining knowledge, skills development, and retention. The studies also highlight the importance of designing effective VR environments and providing appropriate guidance and feedback to learners. However, there are also some limitations and challenges associated with the use of VR, such as cost, accessibility, and technological limitations. Overall, the findings suggest that VR has the potential to revolutionize the way we learn and train, and further research is needed to explore its full potential.

Keywords: *VR, Simulation, Performance, Retention.*

Introduction

Virtual reality (VR) technology has evolved rapidly in recent years, and has become increasingly popular in a wide range of fields, including education and training. VR provides a highly immersive and interactive

environment that allows learners to engage with the subject matter in a way that is not possible through traditional methods. This has led to growing interest in the use of VR for learning and training, and a growing body of research has emerged on the topic.

The purpose of this paper is to review the literature on the use of VR for learning and training, and to identify the key factors that contribute to its effectiveness.

This study will focus on the following questions related to VR:

1. What is the impact of VR on learning and training outcomes?
2. What are the key factors that contribute to the effectiveness of VR for learning and training?
3. What are the limitations and challenges associated with the use of VR for learning and training?

Literature Review

Virtual reality can be used for Simulations and experiential learning and can be effectively used for cognitive skill development of employees in a cost effective manner. VR can be used as a tool to simulate many problems of real-world environments and situations, allowing users to practice skills and decision-making in a safe and controlled environment. For example, medical students can practice surgery in a virtual operating room, or pilots can practice emergency procedures in a virtual cockpit. VR can be used to provide a first-hand experience of a subject, such as visiting a historical site or exploring the human body. This type of experiential learning can be particularly effective for subjects that are difficult to visualize or experience in real life.

Additionally, it can also help in Soft Skills Training. VR can be used to provide training in areas such as communication, teamwork, and leadership. It can also train the employees on negotiation and conflict resolution. By simulating the real-world scenarios, learners can practice these skills in safe a controlled environment. For example, a virtual scenario can be created where employees need to work together to solve a problem, allowing them to practice their collaboration and communication skills in a safe environment.

VR can also be used to provide training and learning opportunities to people who may not have access to them otherwise. For example, VR can be used to provide language learning opportunities for people living in remote areas, or for individuals with disabilities to experience virtual field trips.

VR can be extensively used in human recourse practices to enhance recruitment, on boarding and training processes. VR can create immersive simulation of work environments, allowing candidates to experience company culture and work environment before accepting a job offer. This can help attract candidates who are a good fit for the company culture and reduce turnover. It can also help new hires to learn about the company, its values.

Overall, VR technology has the potential to revolutionize the way we learn and train, by providing engaging and effective learning experiences that are not possible through traditional methods.

Methodology

A systematic review of the literature was conducted using the following search terms: “virtual reality” AND “learning” OR “training”. The search was conducted in several academic databases, including many organizations, Web of Science, and Scopus. The inclusion criteria for the studies were: (1) published in English language, (2) published between 2010 and 2021, (3) focused on the use of VR for learning and training, (4) reported empirical data on learning and training outcomes. A total of 20 studies met the inclusion criteria and were analyzed for this review.

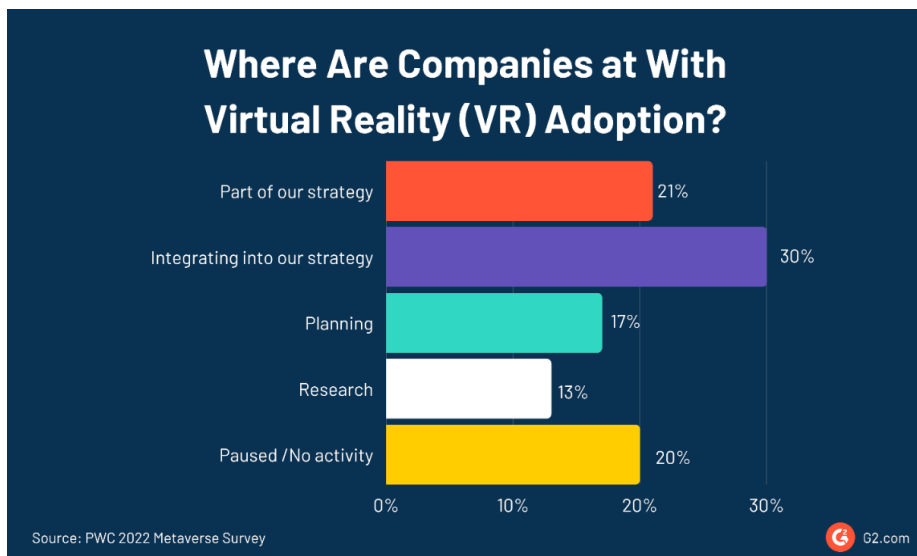
Virtual Reality Training Statistics

VR is already known for training workers in the aviation and manufacturing industries with lifelike simulations. VR is much powerful and visualizations improve practical understanding of a subject and enhance learning through interaction with the immersive environment. Here are some statistics that show the useful benefits of **VR training** over conventional educational methods.

VR headsets were ordered by Accenture two year back (2021) for VR training.

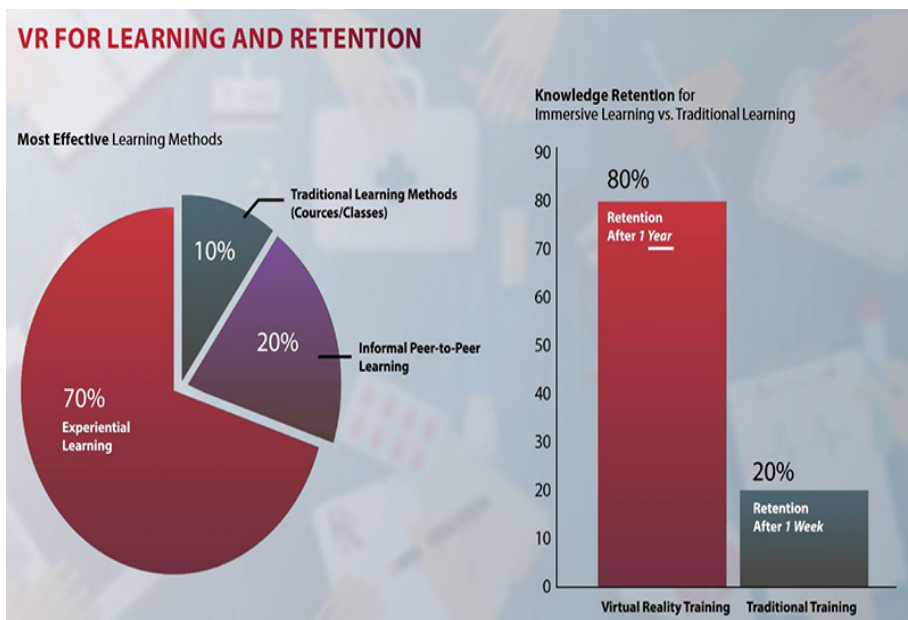
- VR learners are 275% more confident applying skills learned after training.
- VR-trained employees are 4 times more focused during training than their e-learning peers and 1.5 times more focused than their classroom colleagues.
- Surgeons trained using VR make 40% fewer mistakes than those trained conventionally.

Figure 1:- VR tool Adoption in companies for employee training



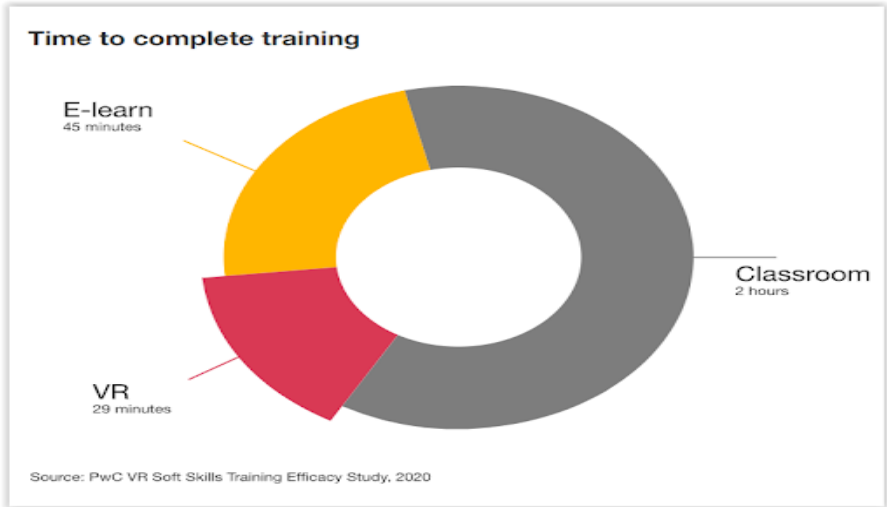
(online survey)

Figure 2:- Performance after adoption



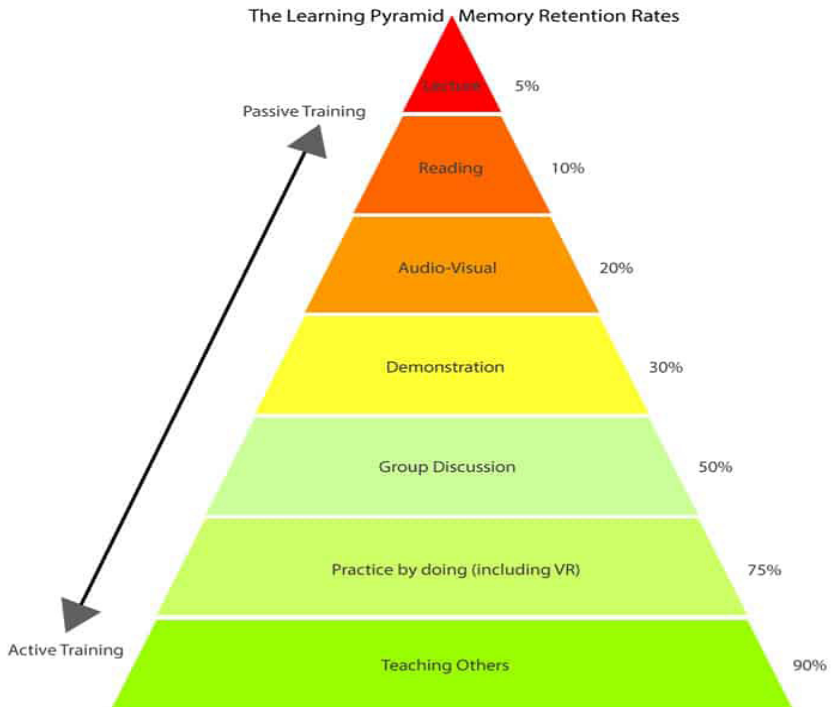
(online survey)

Figure:-3 Time taken to complete training



(online survey)

Figure: -4 Memory Retention Rate



(online survey)

Impact of VR on learning and training outcomes

Virtual Reality (VR) has shown a positive impact on learning and training outcomes in a variety of fields, including medicine, engineering, and aviation, among others. This paper reviews the ways VR has been found to impact learning and training outcomes.

VR has been shown to improve retention of learned material compared to traditional training methods. One study found that participants who learned through VR retained more information and performed better on a follow-up test than those who learned through traditional methods. VR creates an immersive and interactive environment that enhances engagement and motivation in learners. This increased engagement can lead to improved learning outcomes. Moreover, VR can provide a safe and controlled environment for learners to practice and develop skills. For example, medical students can practice surgical procedures in a virtual operating room, or pilots can practice emergency procedures in a virtual cockpit. This allows learners to gain experience and develop skills before applying them in real-world situations.

Additionally, VR can make learning and training more accessible to individuals who may not have access to traditional training methods. For example, VR can provide language learning opportunities for people living in remote areas, or for individuals with disabilities to experience virtual field trips. VR is also cost effective. While the initial development costs for VR-based training may be higher, in the long run, VR can reduce costs associated with traditional training methods, such as travel and equipment costs. The immersive and interactive nature of VR technology has the potential to enhance learning and training outcomes in a variety of fields. However, the effectiveness of VR is highly dependent on the quality of the VR environment and the guidance provided to learners.

There are several key factors that contribute to the effectiveness of Virtual Reality (VR) for learning and training.

Firstly, the level of realism in the VR environment is an important factor in the effectiveness of VR for learning and training. The more realistic the environment, the more engaged and motivated learners are likely to be. Realism can be achieved through high-quality graphics, accurate sounds, and haptic feedback.

Secondly, Interactivity refers to the ability of learners to actively engage with the VR environment. Interactive VR experiences that allow learners

to manipulate objects or perform tasks are more effective than passive experiences.

VR can be more effective when learners are provided with immediate and informative feedback. It is crucial to the effectiveness of VR for learning and training. Feedback can be provided through visual or auditory cues, or through haptic feedback. It should be designed to help learners understand their mistakes and improve their performance. The effectiveness of VR for learning and training is also enhanced when learners receive guided instruction. This can be in the form of a virtual coach or instructor, or through pre-programmed sequences of instruction that lead learners through the VR experience.

Moreover, the effectiveness of VR for learning and training is enhanced when learners are able to transfer what they have learned in the VR environment to real-world contexts. The accessibility of VR for learning and training is an important factor in its effectiveness. VR should be easy to access and use, and should not require extensive technical expertise. Furthermore, the cost-effectiveness of VR for learning and training is also an important factor in its effectiveness. While the initial development costs for VR-based training may be higher than for traditional training methods, in the long run, VR can reduce costs associated with traditional training methods, such as travel and equipment costs.

Therefore, the effectiveness of VR for learning and training is highly dependent on the quality of the VR environment and the guidance provided to learners. The key factors outlined above should be taken into consideration when designing VR-based learning and training experiences.

1. Limitations and challenges associated with the use of VR for learning and training Top of Form

While Virtual Reality (VR) technology has many potential benefits for learning and training, there are also some limitations and challenges associated with its use.

VR technology can be expensive to develop, implement, and maintain. This can be a significant barrier to adoption, especially for smaller organizations or those with limited budgets. The quality of the VR experience is highly dependent on the technical capabilities of the hardware and software. Technical limitations such as low-resolution graphics, poor audio quality, or limited tracking capabilities can diminish the effectiveness of the VR experience.

Moreover, some people experience motion sickness or other discomfort when using VR technology, which can limit the effectiveness of VR for learning and training. This is particularly true for experiences that involve rapid movement or changes in perspective. The lack of standardization and limited flexibility in VR technology can make it difficult to ensure compatibility and interoperability between different hardware and software platforms. VR experiences are generally designed for specific tasks or scenarios, which can limit their flexibility and adaptability for different learning and training needs. Addition to it VR experiences can be isolating, which can limit the potential for social learning and collaboration. This can be particularly problematic in team-based learning and training scenarios.

On the contrary, while realism is important for engagement and motivation, overly realistic environments can also be distracting or even misleading. For example, learners may become too focused on the details of the VR environment and miss important learning opportunities.

To conclude we can say that while VR technology has many potential benefits for learning and training, it is important to consider these limitations and challenges when deciding whether to use VR for a particular learning or training need.

Results

The results of the review indicate that VR has a positive impact on learning and training outcomes. Specifically, the studies showed that VR was effective in terms of knowledge acquisition, skills development, and retention. For example, one study found that medical students who used VR for surgical training had significantly higher scores on a surgical skills assessment compared to those who used traditional methods. Another study found that VR-based training was more effective than traditional training in improving firefighter's performance in handling emergency situations.

The studies also highlighted the importance of designing effective VR environments and providing appropriate guidance and feedback to learners. For example, one study found that learners who received feedback during VR-based training performed significantly better on a post-test compared to those who did not receive feedback. Another study found that the design of the VR environment (e.g., level of realism, interactivity) had a significant impact on learning outcomes.

However, there are also some limitations and challenges associated with the use of VR for learning and training. The most common limitations

identified in the studies were cost, accessibility, and technological limitations. For example, one study noted that the cost of developing VR-based training programs was a major barrier to wider adoption of the technology. Another study identified technological limitations, such as low resolution

Virtual Reality (VR) technology can be a powerful tool for learning and training, as it provides a highly immersive and engaging environment for users to interact with. VR can be used for learning and training in several ways.

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Risk and Return Assessment of Gold Vs. Stock Market: A Comparative View

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Abstract

The choice of investment alternatives relies on the investor's risk tolerance and expected returns. Examples of investment possibilities include gold, the stock market, mutual funds, and fixed deposits in banks. Each of these investment options has a unique risk-return profile. In India, buying gold is a common type of investment. People typically buy gold jewellery, coins, or bars. Due to its historical value and ability to serve as an inflation buffer, gold is seen as a secure investment. However, compared to other investment options like equities or mutual funds, gold often offers a lower return on investment. In India, stock market investing has historically been regarded as a dangerous endeavour. However, more people are now using online trading platforms due to increased knowledge of them and their accessibility. The most well-known stock market in India is the National Stock Market (NSE), which provides a variety of investment opportunities like stocks, bonds, and derivatives. Another well-liked investing choice in India is mutual funds, where a number of participants combine their cash to buy stocks, bonds, or other securities. Mutual funds are expertly managed and provide diversification to investors. In India, fixed deposits in banks are a low-risk investment option where investors deposit a set amount of money for a set amount of time and receive interest on it. For risk-averse investors, fixed deposits are a popular investment choice because they guarantee a return on investment. This study focuses on the comparison of risk and return of investing in gold and the National Stock Exchange (NSE) index. Each investment's

prior performance over a given time period is compared in order to compare the returns of the NSE index and gold. The returns on both investments are determined using historical data, and then they can be compared. This study examines the volatility, standard deviation, and other risk indicators of the NSE index and gold to evaluate the risks associated with each. Measures to evaluate the risk associated with each investment are identified and evaluated to ascertain which one is riskier. It's crucial to know that stock market investments, particularly those in the NSE index, are riskier than gold investments. The success of financial assets may be impacted by market volatility as well as a number of other economic and political events that affect the stock market. In contrast, gold is seen as a safe-haven asset that may protect investors from inflation and market instability. This paper attempts to examine the return and risk involved in investment in Stock Market and Gold. Moreover, the best Investment Instrument among the Stock market and Gold on Risk Return basis is also ascertained. The period of study is considered as ten years starting from 2012-13 to 2022-23.

Keywords: CAGR, Gold, Risk, Return, Skewness, Standard deviation

Introduction

Investment is the process of using already-existing capital to make more money. Investment is the process of allocating money to assets or financial instruments with the goal of generating returns in the future in the form of interest, dividends, or a rise in the value of the asset. Investment affects families, businesses, and governments in a number of economic sectors, including business management and finance. Investments are sometimes misunderstood because some people may only identify them with pursuing profits while ignoring the dangers and time horizons involved. Money used for gaming or speculation, however, cannot be categorised as an investment. (Stout, L. (2012)). True investment entails a process where people carefully examine many market investment possibilities, assess their risk tolerance, and then decide whether to devote their money to an investment for a long time to expect good returns.

The variety of investment options available to investors depends on their risk tolerance and expected returns. Every investment strategy offers a unique risk-reward trade-off. (Bertsimas, D., Gupta, V., & Paschalidis, I. C. (2012)). High-risk investments have the potential for larger profits whereas low-risk investments give guaranteed but generally lower returns. (Helms, T., et. al (2020)). Consequently, choosing the best investing strategy requires careful consideration of the investor's risk tolerance. Bank deposits, commodities like gold and silver, post office savings plans, public provident funds, business fixed deposits, and stock market instruments

including bonds, debentures, mutual funds, and equity shares are just a few of the investment possibilities accessible. (Baral, S. K. (2012)). Exchange-traded funds (ETFs) that invest in gold are regarded as favourable for risk diversification among the many stock market investing alternatives. (Babu, B. H., et. al (2022)).

It is believed that changes in gold prices are connected with the performance of gold-related instruments, such as common stock in gold mining businesses. The returns on these securities are significantly impacted by changes in the price of gold. In contrast, the impact of overall stock market performance on instruments linked to gold is very negligible. In essence, the fluctuation in gold prices is the main factor influencing returns for such instruments, with the wider stock market movements having less of an impact. (Olweny, T., & Omondi, K. (2011)).

Individuals can invest in the stock market through two basic channels. They can work directly with stock brokers to buy and sell shares in various corporations. (Mutswenje, V. S. (2009)). They can also choose equity mutual funds, in which a mutual fund business gathers funds from investors and creates mutual fund units in exchange. (Wilcox, R. T. (2003)). These monies are subsequently entrusted to mutual fund firm investment experts, who make stock market investments on behalf of the clients. Similarly, there are numerous ways to invest in gold, including buying it from a local jeweller, getting gold coins from a bank, investing in gold mutual funds, or choosing gold-focused Exchange Traded Funds (ETFs) (Sarkar, S. (2012)). Gold is often viewed as a secure investment in India, and many people prefer it to the rupee. (Baber, P., et. al (2013))

Review of Literature

There is a dynamic relationship between gold prices, gold mining stock price indices, and global stock market indices. Evidence indicates that these variables are cointegrated and therefore have a long-term relationship. The model suggests the existence of a short-term unilateral causal relationship. In particular, it indicates that there is a causal relationship between high-cap stock prices and gold mining company stock prices. (Gilmore, C. G., McManus, G. M., Sharma, R., & Tezel, A. (2009)). Correlation integrals based on the bivariate model show significant evidence of a nonlinear feedback effect among the variables during the financial crisis period for all the country's understudies. Very limited evidence of significant feedback is found during the pre-crisis period. (Choudhry, T., Hassan, S. S., & Shabi, S. (2015)). Gold correlations to stock markets vary from year to year, with

moderate positive correlations before the financial crisis, weak and low correlations during the financial crisis, and strong high negative correlations after the financial crisis. Despite these differences, the cointegration test suggests a long-term relationship between gold and the stock market, and the Granger causality test does not indicate a causal relationship between the two variables. (Al-Ameer, M., et.al (2018)).

The BSE 100 index investigated the relationship between domestic gold prices and stock market returns. During the period January 1991 to December 2009, a vector error correction model (VECM) was used to investigate the Grünen-Causation between variables. Analysis revealed that the correlation between gold prices and returns from the stock market in India exists. This implies that both variables have a mutual relationship and influence over time. Mishra, P. K., Das, J. R., & Mishra, S. K. (2010). Explored the relationship between the return of gold and shares in different recessions, including COVID-19. In contrast to previous periods of economic stress, the relationship between gold and stock market returns during COVID-19 was positive. The idea that gold is a buffer for a stock portfolio is not supported, especially during COVID-19. The driver of the relationship between gold and stock markets appears to be both volatility in stock markets and a lack of investment opportunities in times of low-interest rates. Drake, P. P. (2022). The role of gold as a safe-haven and hedging asset during the COVID-19 outbreak in thirteen Asian stock markets was studied and revealed that gold serves as a strong hedge for the majority of Asian stock markets during this period, providing diversification benefits. It also demonstrated strong safe-haven characteristics in China, Indonesia, Singapore, and Vietnam, but a weaker safe-haven role in Pakistan and Thailand. The hedging effectiveness of gold is higher for most Asian stock markets during the COVID-19 sub-period. The study further revealed that gold-implied volatility and inflation expectations play a significant role in driving hedge portfolio returns in both sub-periods. (Yousaf, I., et.al (2021))

The variations in stock market returns among different stocks could not be explained by beta, the conventional risk measure, or alternative risk measures such as variance or residual standard deviation between 1962 and 1981. The size of the stocks was the only element that seemed to have a meaningful impact on returns. The analysis found that larger equities appeared to have higher returns than smaller stocks. However, it is significant to notice that even the size variable lost statistical significance when January returns were taken out of the analysis. This implies that particular patterns

or anomalies noticed in January may have been the driving force behind the link between stock returns and size. (Lakonishok, J., et.al (1986)).

Objectives of the Study

The objectives of the study are to:

- To compare the returns of Gold and Stock Market Index.
- To measure the risk involved in Investment in Stock Market and Gold
- To find out the best Investment Instrument among Stock market and Gold on Risk Return basis over a period of time.

Research Methodology

The study's ten-year time frame is from 2013 to 2023. The website *Investing.com* is where the data for this time was found. The data was categorised monthly, and the yearly average was computed for comparison. Various statistical tools are tested to analyse the objective of the study.

Tools

To measure volatility, standard deviation and skewness were considered. These measures help to understand the underlying risks involved in a particular investment portfolio. Further, to analyse returns obtained by an investor, the annual percentage of returns are calculated in the study using Compounded Annual Growth Rate.

Conceptual Framework: Statistics View

i. Standard Deviation

The standard deviation measures how much a return on an asset deviates from its average return over a specific time period. The higher standard deviation of any investment typically exhibits greater volatility and is more prone to undergo large price changes.

For a given time series, represented as $\{Y_t\}_{t=1}^T$ having mean and standard deviation denoted by μ and σ respectively.

Then, for standard deviation we use:

$$\sigma^2 = \frac{\sum_{t=1}^T ((Y_t) - \mu)^2}{N}$$

ii. Skewness

Among the possible strategies for enhancing investment comprehension, skewness is taken into account in addition to standard deviation to better

understand the risk-return characteristics of an investment. Skewness offers information beyond standard deviation in the context of calculating return. For investors looking for upside potential, a positively skewed distribution suggests a higher possibility of larger positive returns, which might be appealing. A negatively skewed distribution, on the other hand, denotes a higher possibility of larger negative returns and increased downside risk.

For the time series $\{Y_t\}_{t=1}^T$ we calculate skewness mathematically as

$$\tau = \frac{\sum_{t=1}^T (\{Y_t\} - \mu)^3}{N \times \sigma^3}$$

iii. CAGR (Compounded Annual Growth Rate)

The Compounded Annual Growth Rate is a method for figuring out an investment's annualised growth rate over a certain time frame, based on the assumption that the investment's value increases at a constant rate that is compounded yearly.

The compounding effect, in which earnings on investments are reinvested and generate higher returns over time, is taken into account by CAGR. It gives a smooth picture of the growth rate of the investment, mitigating the effects of yearly variations.

Using log linear functions on the time series data, the exponential compound annual growth rates are computed as shown below.

For a time series, $\{Y_t\}_{t=1}^T$, we consider the equation

$$Y_t = Y_0 (1+r)^t$$

Where r represents the CAGR value and t symbolises the time period taken into consideration.

Taking logarithm on both the sides,

$$\text{Log } Y_t = \text{Log } Y_0 + \text{Log}((1+r)^t)$$

Then,

$$\text{Log } Y_t - \text{Log } Y_0 = \text{Log}((1+r)^t)$$

This can be re-written as,

$$\text{Log } \frac{Y_t}{Y_0} = \text{Log}((1+r)^t)$$

Taking anti-logarithm of entire equation

$$\frac{Y_t}{Y_0} = (1+r)^t$$

Adjusting the powers,

$$\left(\frac{Y_t}{Y_0}\right)^{1/t} = (1+r)$$

Ultimately, we get

$$\left(\frac{Y_t}{Y_0}\right)^{1/t} - 1 = r$$

Which can be generalized as

$$\left(\frac{\text{ending value}}{\text{beginning value}}\right)^{1/t} - 1 = r$$

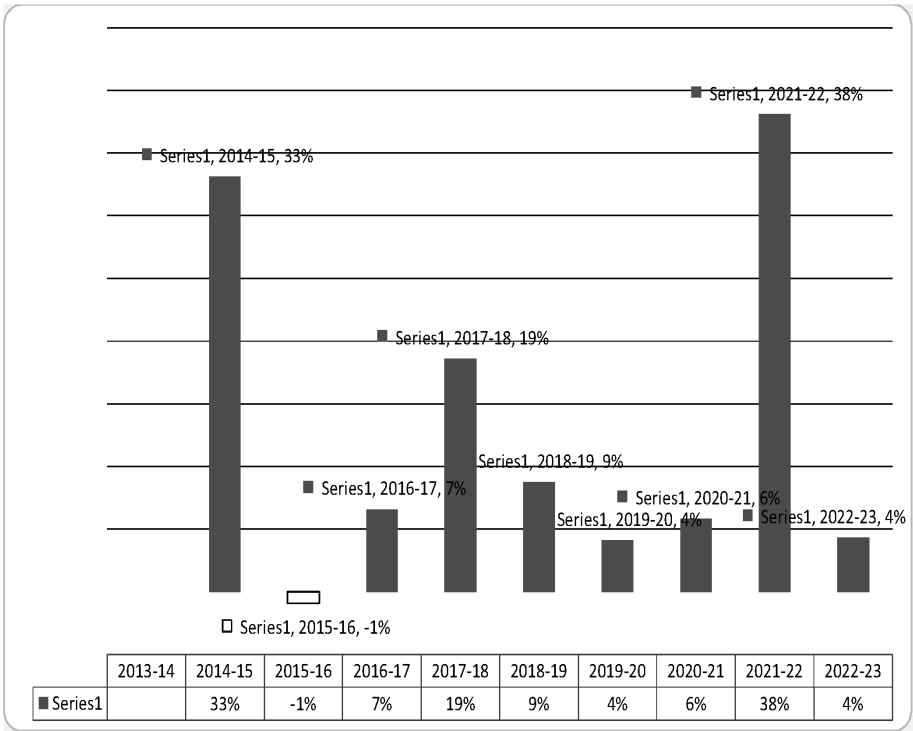
Data Analysis and Interpretation

Table 1: Annual Closing value of NIFTY Index and Return Analysis

Year	Average Closing Prices (Rs.)	Annual Return	Return %
2013-14	6,046.45		
2014-15	8,047.75	2,001.31	33%
2015-16	7,972.76	-75.00	-1%
2016-17	8,498.68	525.92	7%
2017-18	10,079.72	1,581.04	19%
2018-19	10,960.88	881.16	9%
2019-20	11,411.59	450.71	4%
2020-21	12,074.86	663.28	6%
2021-22	16,671.35	4,596.49	38%
2022-23	17,390.08	718.73	4%

Source: Data compiled from Investing.com

Figure 1: Nifty Annual Return Percentage Chart



Source: Calculated from Table 1

Table 1 shows that over a period of ten years, the value of the index has grown up from Rs.6046.45 to Rs.17,390.02. It indicates that people who made investments in the index ten years ago saw a profit over that time. Figure 1, also shows during this period index has delivered negative returns in the year 2015-16.

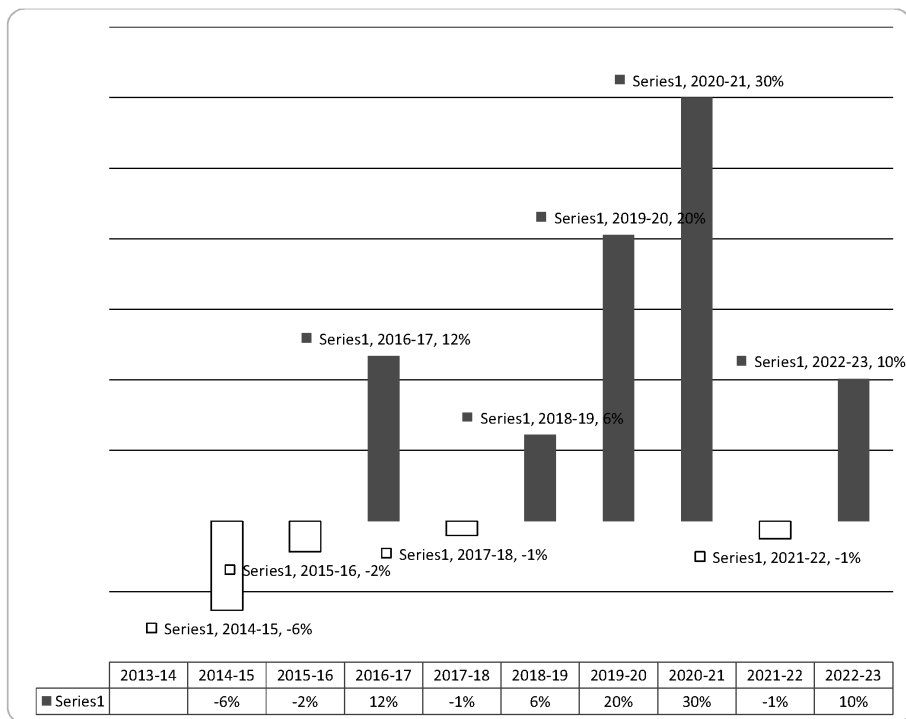
Even when the amount invested has increased over time, the asset’s return value does not meet an investor’s needs in a satisfying manner. The returns on the asset might not be keeping up with the investor’s goals or needs in terms of money. Financial hardship or the requirement for additional sources of income could result from this.

Table 2: Annual Closing value of Index (Gold) and Return Analysis

Year	Average closing price	Annual Return	Return %
2013-14	28,967		
2014-15	27,140	-1,828	-6%
2015-16	26,550	-590	-2%
2016-17	29,655	3,105	12%
2017-18	29,353	-302	-1%
2018-19	31,143	1,789	6%
2019-20	37,460	6,317	20%
2020-21	48,697	11,238	30%
2021-22	48,088	-609	-1%
2022-23	52,940	4,852	10%

Source: Data compiled from Investing.com

Figure 1: Gold Annual Return Percentage Chart

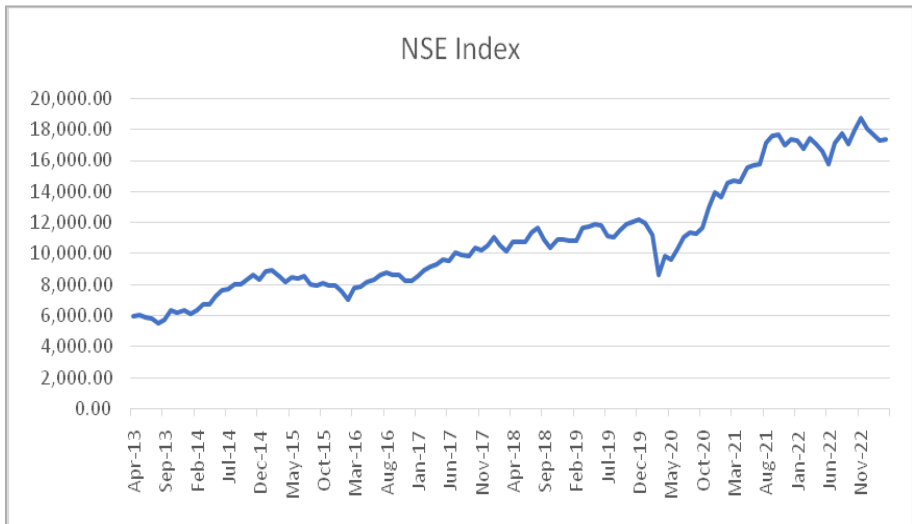


Source: Calculated from Table 2

The average closing price of gold from 2013 through 2023, as well as its average yearly returns and return percentage, are shown in Table 2. Figure 2 demonstrates that Gold often provided a negative return over the course of 10 years.

The data demonstrate that the return on gold investments descended more often than anticipated. However, the quantity that was drained was insufficient. As a result, the investor can think of this portfolio as an investment with little turmoil or unpredictability.

Figure 3: Monthly Closing Value of NIFTY INDEX



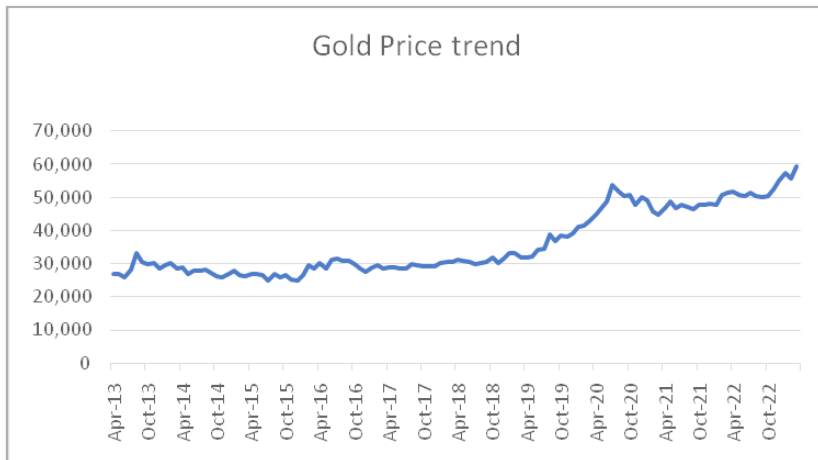
Source: Data compiled from Investing.com

The above graph depicts the value of the NIFTY INDEX from 2013 to 2023. When magnified, the significant changes in index value are visible. It is well known that there is no way to accurately forecast the ideal time to invest in the market. Therefore, a great amount of information must be acquired before one can truly engage in the stock market to receive larger profits.

The graph illustrates a non-smooth aspect of stock returns, which refers to the lack of consistency despite an upward trajectory. Furthermore, the erratic character of stock returns draws attention to the level of risk involved in stock investing. The degree and frequency of price variations are referred to as volatility. Greater price movements, both upward and downward, over the course of a certain period are indicative of higher volatility. There is

a higher probability of sizable profits or losses in a short period of time when stock values are very volatile.

Figure 4: Monthly Closing price of Gold (in Rs.)



Source: Data compiled from Investing.com

Information about the spot price of gold from 2013 to 2023 is shown in the graph. It shows how gold's cost fluctuated during this time and ultimately rose in value at the end of the tenure. Within the specified time frame, gold prices subsided, but the decline was not unduly dramatic or financially unreasonable. A good return on investment would have been enjoyed by investors who kept gold during this time, based on the increase in gold's value by the conclusion of the era. This increase in worth may have served as an insurance policy against inflation or a reserve of value during volatile market conditions.

Risk-Return Evaluation

Skewness and standard deviation are significant metrics for examining investment returns but offer distinct perspectives and have different applications.

The variability or dispersion of returns around the mean is measured by the standard deviation. It offers a gauge for an investment's general risk or volatility. A bigger standard deviation indicates greater price volatility and thus higher risk.

Skewness offers information beyond standard deviation in the context of calculating return. For investors looking for upside potential, a positively skewed distribution suggests a higher possibility of larger positive returns,

which might be appealing. A negatively skewed distribution, on the other hand, denotes a higher possibility of larger negative returns and increased downside risk.

Compounded Annual Growth Rate (CAGR) offers a consistent technique to calculate the yearly average return on an investment while taking the compounding impact of returns into consideration. By giving a single annualised number, CAGR reduces the influence of short-term swings in investment returns. It aids investors in maintaining their attention on the long-term trend rather than becoming sidetracked by cyclical ups and downs. As a result, CAGR is especially helpful for evaluating the performance of investments over a number of years.

Standard deviation, skewness and CAGR have been determined for both NIFTY Index and Gold investments in this study, and the findings are displayed below:

Table 3: Calculation of Standard Deviation, Skewness and CAGR of NIFTY Index and Gold Prices

	NIFTY Index	Gold Prices
Standard Deviation	13.80%	11.88%
Skewness	2.01	1.08
CAGR	11.14%	6.22%

Source: Data compiled from Investing.com

The table above shows that the NIFTY index has a higher standard deviation and skewness than gold. A high standard deviation denotes a wide range of potential outcomes and higher returns variability. Besides it indicates investments are riskier and may be harder to anticipate or manage since they are more likely to experience large price movements.

However, extremely favourable returns are more likely to occur when there is a significant positive skewness.

When both skewness and standard deviation are high, this combination implies that higher level of risk and potential for unpredictability in the investment's performance.

If we compare the CAGR of the two investments, it is obvious from Table 3 that the returns from the NIFTY Index are 11.14% annually, whereas the returns from Gold for the same time are 6.22% annually. This means that, on average, stock market investments have outperformed gold investments during the selected period of time. It suggests that, in terms of growth, stock market investments have surpassed gold.

Conclusion

Compared to the stock market, the returns on gold, in India, have been less impressive. In times of economic boom and market upswings, gold may be a dependable source for long-term wealth preservation, but its rewards might not equal the potential rise of equities. For investors looking for stability, wealth preservation, and portfolio diversification, gold is an appealing alternative due to its qualities as a safe haven asset, inflation hedge, decreased volatility, and minimal counterparty risk.

Systemic risks, such as financial crises, economic downturns, or unanticipated market occurrences, can have an effect on the whole stock market and cause an unexpected variation in stock values. Individual investors have little control over these risks, which can cause large losses.

In conclusion, compared to other investment alternatives, investing in stock prices may result in larger profits. Investors must, however, be aware of the dangers inherent in stock market investments, such as market volatility, company-specific risks, systemic risks, and the need of controlling their emotions and behaviour. Conducting thorough research, diversifying portfolios, and aligning investments with individual risk tolerance and investment are crucial considerations.

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Cryptocurrency and Intellectual Property Rights: An Overview and Implications

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Abstract

Ideas, innovations, and creative expressions on the basis of which there is a public desire to grant the status of property is referred to as Intellectual Property Rights (IPR). In order for the inventors or creators of that property to profit commercially from their creative endeavors or reputation, IPR grant them certain exclusive rights. There are various forms of intellectual property protection, including trademark, copyright, and patent. An innovation that satisfies the requirements of universal novelty, non-obviousness, and industrial use is given a patent. IPR is a requirement for improved invention or creative work identification, planning, marketing, and protection. Every sector should have its own IPR laws, management practices, etc. A peer-to-peer network for conducting encrypted digital trade called cryptocurrency was created eight years ago. The first and most well-known cryptocurrency, Bitcoin, is leading the charge as a disruptive technology to decades-old, largely unaltered financial payment infrastructure. Although cryptocurrencies are unlikely to displace traditional fiat money, they might alter how Internet-connected global markets communicate with one another by removing restrictions imposed by conventional national currencies and exchange rates.

Keywords: *Intellectual Property Rights, Cryptocurrency, Bitcoin, conventional national currencies*

Introduction

Many of the actions we perform in our everyday lives have been digitized and have become more adaptable and efficient as a result of the rapid growth of information and communication technologies. In order to

make financial transactions like buying, selling, and trading easier, there has been a significant increase in the number of online users. This has activated virtual word concepts and produced new economic phenomena called cryptocurrency.

Virtual worlds, peer-to-peer networks, online social networks, and online social games are just a few of the applications and networks that employ cryptocurrency to represent valuable and intangible goods. There is no denying that the age of information and communication technologies has given rise to a number of excellent opportunities. The finance and commercial sector is one of the industries that gains from these technology and online connections. Virtual world concepts have been triggered by an increasing number of online users, resulting in a new commercial phenomenon. As a result, new trading, transaction, and currency models have emerged. Cryptocurrency is one of the astonishing new financial instruments that has developed in recent years.

An increasing number of web users have activated the concepts of virtual worlds. Thus, new and updated types of trade, transactions and currencies are being introduced in the market at an increasing rate. One such notable digital payment system that has emerged in the past few years is cryptocurrency. The term “cryptocurrency” refers to a form of money that is created through the use of cryptographic methods. Cryptocurrencies represent valuable and intangible items that can be utilised electronically or virtually in many applications and networks such as online social networks, online social games, virtual worlds, and peer-to-peer networks.

CryptoCurrency was invented after the 2008 Global Economic Crisis, to have a decentralized form of currency for individuals. This was created with the intent to prevent any actions or inactions where the governments or the banks could completely tremble the economy of the World. In 2009, the first decentralized cryptocurrency, bitcoin, was created by presumably pseudonymous developer Satoshi Nakamoto. In the past decade, cryptocurrencies have seen a thousand-fold rise in the prices of coins, making people attracted to these markets. For example, the value of bitcoin in the early part of 2010 was 0.0008 USD, it had risen up to 60,000 dollars merely in the time period of 11 years, i.e. by May of 2021. This stupendous rise in prices has attracted people from across the globe to invest in the crypto currency, with the aim to earn more profits.

The use of cryptocurrencies has always been controversial because it is unclear to the general public whether they are legal or not. A type of digital

money, bitcoins is not regarded as a valid form of payment. These, however, have the ability to serve as a form of transaction comparable to money.

Cryptocurrencies are the subject of various worries, including that they might be used as a conduit for illegal funds or to covertly fund terrorists, due to the lack of a traditional government or bank-backed mechanism to control their usage. Despite the odds, cryptocurrencies have grown in popularity across the globe, and the Indian cryptocurrency market has also been gradually gaining ground.

Since 2013, the RBI has issued numerous alerts via press releases highlighting the possible harm that using cryptocurrencies could do to the nation's financial system. On February 28, 2019, the Inter-ministerial Committee also published a report in which it made recommendations for various cryptocurrency-related actions, including the outright prohibition of private cryptocurrencies. However, using cryptocurrencies in general was never outlawed. The RBI issued a circular in April 2018 that forbade licenced financial institutions from offering services to companies engaged in the exchange or trading of cryptocurrencies, which completely upended the Indian cryptocurrency trading market. Several writ petitions filed by crypto-trading organisations before the Supreme Court contested the legitimacy of the circular. The Supreme Court considered cryptocurrencies in its judgment in *Internet and Mobile Association of India v. Reserve Bank of India* and invalidated the circular.

The Supreme Court considered RBI's function in the economy as a central bank that controls the money supply, interest rates, and currency, and acknowledged that one of its goals was to maintain price stability. The Supreme Court stated that payment systems can be regulated by the RBI and that cryptocurrencies are capable of being accepted as legitimate forms of payment for the purchase of goods and services.

According to the Supreme Court, the RBI has every right to issue the circular in order to meet its legal obligation to protect the "public interest, depositor interests, and interests of the banking policy."

The Supreme Court rejected the argument that RBI had overstepped its authority by finding that the circular was issued in the interest of banking policy, depositors, and the general public, adding that "therefore, anything that may pose a threat to or have an impact on the financial system of the country, can be regulated or prohibited by RBI, despite the said activity not forming part of the credit system or payment system." Cryptocurrency, also known as crypto, is an unregulated form of digital currency.

Bitcoin, Litecoin, Ethereum, Ethereum Classic, Dogecoin, Dash, Ripple, DESO, and Safe Moon are some of the more well-known cryptocurrencies. Cryptographic transactions are safeguarded and the transfer of assets is confirmed with the use of cryptography. Blockchain also contributes to the security of cryptocurrency by halting the spread of counterfeits.

If this is the case, what kind of intellectual property protection is needed for cryptocurrencies? “Although an individual coin on an established blockchain like Ethereum or Bitcoin is ‘near unhackable,’ the IP surrounding them remains vulnerable to infringement,” said John M. Mulcahy, a partner at Finnegan, Henderson, Farabow, Garrett & Dunner in Washington. “The brand names surrounding different types of cryptocurrency and the innovative ways of creating or utilizing cryptocurrency should warrant IP protection just as other protectable trademarks and patents,” said Eugene Low, a partner at Hogan Lovells in Hong Kong.

The entire system of cryptocurrency functions through blockchain technology. Blockchain is essential to cryptocurrencies because it has great promise for a number of sectors, including finance, supply chains, healthcare, retail, travel, and so on. As a result, the relationship between blockchain technology, cryptocurrencies, and intellectual property (IP) law is rapidly expanding.

Intellectual Property’s Tryst with Cryptocurrency

Experts are speculating if the use of cryptocurrencies would eventually cause the technology’s rapid expansion to be constrained by IP protections like copyright, patent, or trademark; specifically, the cryptocurrencies linked with them.

Innovation and the function of legal protection offered by IP law have always been at odds with one another. It is vital to recognise that modern IP law has not yet been utilised in the blockchain technology, despite the fact that both supporters and opponents of IP law can see how it might, depending on the circumstance, either stimulate or inhibit innovation.

With the onset of the regulation bill, cryptocurrency has become a familiar and well accepted term in India but it’s difficult to check the predictability by considering the ownership which can be done with the help of IP protections like copyright, patent, and trademarks.

It is commonly anticipated that when India’s regulatory measures take effect, many new businesses that may emerge employing bitcoin technologies may turn to IP laws for legal protection of their operating procedures. The

most well-known cryptocurrency, Bitcoin, is unpatented. Experts claim that the reason why such cryptocurrencies are growing at such a rapid rate is because there is no IP protection. However, in my opinion, it also serves as a counter, and the fact that the rise and decline rates of cryptocurrencies are unexpected and dependent on a variety of external events is due to the IP. However, there are several arguments against IP protections for cryptocurrencies since they claim that because they have their own self-policing processes, they do not need them and should therefore stay open source. The most likely scenario is that as cryptocurrencies become more popular in India and the blockchain technology that powers them becomes more useful outside of the financial sector, attempts will be made to apply ownership through the use of intellectual property protection. It is challenging to provide IP protection for cryptocurrencies since it is impossible to determine who actually owns them. For instance, the goal of trademark law is to give the trademark owner the ability to use the mark exclusively in connection with its goods and to stop trademark infringement. Because the blockchain's creators are unknown and the technology is built on entirely anonymous and interference-free transactions, it can be challenging to apply this idea to cryptocurrencies. If a cryptocurrency, like a traditional currency, solely serves as a means of exchange, it might not be considered a product or service. However, a good or service connected to a certain function may make it possible to register the name of the cryptocurrency as a trademark.

Examples of instructional descriptions of goods and services are found in registered trademarks connected to cryptocurrencies. When requesting a trademark, applicants should take into account the goods and services connected to a cryptocurrency.

As a result, it would be challenging for a person or organisation to assert ownership of the coin. Many people disagree with the registration of blockchain as a trademark since they consider it to be a technology rather than a trademark. Each and every person in the globe is free to use blockchain.

The requirement that the mark identifies the source of the products or services associated with the mark, which is challenging in the case of blockchain technology, can be a possible bottleneck in the event that blockchain technology seeks to obtain trademark protection.

A cryptocurrency name should not be used in a general way against this backdrop to prevent the name from entering the public domain. The

blockchain only verifies that the data hasn't been altered or tampered with; it doesn't do an initial inspection on the submitted original data. Furthermore, because of the immutability of block chain technology, it is challenging to change an entry after it has been made. In light of the aforementioned factors taken together, securing IP protection for blockchain or cryptocurrencies is dubious. The United States is most likely the first country to experience an increase in case laws relating to trademark law and cryptocurrencies, especially since it began enabling the registration of bitcoin names. The plaintiff in *Alibaba Group Holding Ltd vs. Alibabacoin Foundation* requested a preliminary injunction against the defendants for trademark infringement of its brand Alibaba as a new cryptocurrency, Alibabacoin. They asked for a ban on using the word Alibaba Coin to refer to their cryptocurrency until the lawsuit was resolved.

The US District Court for the Southern District of New York approved the preliminary injunction and denied the defendants' motion for the complaint to be dismissed. Alibaba had explicitly said that it would never enter the cryptocurrency industry, according to one of the defendants' primary arguments, and as a result, had given up the right to use its cryptocurrency trademark.

After deciding that Alibaba had established a likelihood of success on the merits of its trademark infringement claim, the Court rejected this argument and granted Alibaba a preliminary injunction, noting that "accepting this view of abandonment would render American trademark law largely ineffective." Additionally, the Court found that the defendants used the mark "in combination with their online business activities," showing that the mark was in use. Recent Indian Patent Office patent grants seem to demonstrate that computer-related inventions are patentable under Section 3(k) if they provide a practical application or a better technical impact of the underlying programme, which solves a technical problem.

Blockchain

Blockchain is a developing technology that offers advanced information exchange protection for stakeholders. Work from home has started to become the norm as a result of lockdowns brought on by Covid. This paradigm shift necessitates new approaches to sharing vital data that cannot be altered in any way. Blockchain technology has the ability to improve the security and transparency of interactions between many businesses, luring financial players to engage in the technology. For instance, blockchain, which first

served as a safe platform for cryptocurrencies, is now used in a variety of sectors including healthcare, education, travel, and so on. Blockchain technology generally belongs to the category of software inventions under the patent system.

Since application software and cryptography are involved in blockchain-related patents in India, the pertinent objections are comparable to those that might be raised against software patents. As a result, as the blockchain is primarily a database ledger, the most frequent complaint is with regard to section 3(k) of the Indian Patents Act.

The employment of a database combined with AI may be regarded as either an algorithm or a computer programme in and of itself under section 3(k) of the law. However, such inventions can be patented if the creator is able to demonstrate a technical advance in using a tangible product by combining blockchain technology and AI. The IP ecosystem has been significantly impacted by the use of blockchain and AI in recent years. The application benefits businesses in number of ways, which include- By compiling all of the patents that are currently available in any area of interest in a quicker and more affordable manner, it is possible to identify attractive market prospects without taking any possible business risks. In order to prove infringement for abstract works like music or dance, for which IP rights are not immediately registered at the time of production under the current structure, it is important to establish clear ownership rights. Trademark rights licensing with smart contracts and helping to reduce counterfeiting by confirming the products' origin using distinctive identifiers.

Regulation of Crypto

The unquestionable fact nowadays is that Crypto is unchecked and buying or selling crypto is not unlawful. The government of India wanted to introduce a regulatory bill in the parliament titled "The Cryptocurrency and Regulation of Official Digital Currency Bill 2021". But could not be implemented since the consultation with many stakeholders remain incomplete. "The Cryptocurrency and Regulation of Official Digital Currency Bill 2021" is intended to ban all private digital currency and to impose a governed and regulated method in which a cryptocurrency can be introduced conventionally. This will lead to abundance of cryptocurrencies to pursue the official pathway which is made by the act to be legalized in India after the act is passed.

Above all, it is in agenda of RBI to introduce its own official cryptocurrency under Central Bank Digital Currency (CBDC) whenever the bill becomes an act.

The bill provides ample time period during which the masses would be free to liquidate all its private crypto holdings after which trading in private crypto will be penalized as per the provisions of the bill.

India and Cryptocurrency

India, which has a population of over 1 billion, has recently seen something of an economic revival. The country's growth has been so significant that the IMF has dubbed it the fastest-growing emerging economy. More than 40% of the people in the country have access to telecommunications and internet services. Although it is a nation rich in mystery, history, and culture, it also keeps up with modern innovation. Since a few years ago, the nation has started using bitcoin and other cryptocurrencies.

The Reserve Bank of India (RBI) published a circular on April 6th stating that citizens will not be permitted to transact in cryptocurrencies due to major concerns over, among other things, consumer protection, market integrity, and money laundering. However, by allowing its transactions, the top court appeared to have favored virtual currencies. The Supreme Court said that cryptocurrency should be governed by the RBI and that it can be used to pay for goods and services.

The RBI was justified in banning the usage of cryptocurrencies, according to the Supreme Court, because it is a financial organisation dedicated to safeguarding the money of the general public. However, it also stated that the RBI should have considered other options and implemented suitable restrictions in order to benefit virtual currency users rather than just banning these digital currencies. As a result, although there is law for regulation, it has not yet been put into effect in India. Small-scale Bitcoin transactions started happening in the nation in 2012 already. Only cryptocurrency nerds were interested in Bitcoin at the time because it was still in its early stages of development. By 2013, Bitcoin was starting to become widely accepted across a number of nations.

A few companies started to accept Bitcoin payments that year. The first restaurant in India to accept Bitcoin payments is Kolonial, a retro-style pizza eatery in Mumbai's Worli district. In a short period of time, local bitcoin exchanges started to proliferate. The Cryptocurrency and

Regulation of Official Digital Currency Bill, 2021 is yet to be tabled by the government. The Bill seeks to prohibit all private cryptocurrencies in India, however, “it allows for certain exceptions to promote the underlying technology of cryptocurrency and its uses,” the document reads. From 1 April, a flat 30% tax will be levied on the transfer of virtual digital assets (VDAs) or crypto assets. Along with this, a 1% tax deducted at source (TDS) will be applicable on each transfer of such assets. However, the TDS provision will get active from 1 July onwards.

Challenges in Crypto

Globally, there are an increasing number of requests for trade secret, copyright, patent, and trademark protection for bitcoin technologies. However, things are not as rosy as they appear. Cryptography is a rapidly evolving technology, thus difficulties exist.

To start, the issue of cryptocurrencies is a worldwide one. This means that an IP owner must submit applications in several jurisdictions, which increases the cost of obtaining IP rights and enforcing them. Without a formal firm structure, many crypto initiatives also entail joint efforts. This implies that concerns about who controls the underlying technology are certain to develop and cause issues.

The ongoing threat that the internet poses is another one. “Online or internet theft has increased along with rising dependency on the internet. There are significant odds of one’s asset being compromised given that the entire notion of cryptocurrencies is online.

Due to the ambiguity surrounding the crypto-related inventions’ eligibility for patent protection, this issue is particularly acute in the United States. “Cryptocurrency lies at the intersection of software and finance – two areas that have historically proved difficult for the patent system to come to grips with,” said John M. Mulcahy, a partner at Finnegan, Henderson, Farabow, Garrett & Dunner in Washington. However, Mulcahy added that during the past decade, the United States Supreme Court, Federal Circuit and the USPTO have tried to shed light to the question of when is a software-implemented invention patent eligible. Now, under the USPTO’s 2019 Revised Patent Subject Matter Eligibility Guidance, there appears to be a system for this, allowing the office’s 8,000-plus patent examiners to be guided as to the patent eligibility of a particular invention and apply the rules with some consistency.

“Although it’s still a difficult area, we can now predict with some certainty whether a given patent claim will ultimately be considered patent-eligible by the USPTO,” Mulcahy said.

“Once a patent has been issued, however, there may be difficulties in enforcing it. As with any software patent, it can be difficult to determine whether what is going on behind the firewall infringes a patent or appropriates a trade secret,” said Mulcahy, “You can’t stop infringement that you can’t see.” The very nature of distributed ledger technologies – that they are distributed – presents another problem. “Each of the nodes in a given network may be operated by a different entity, in a different country. However, patents and trademarks are territorial, even if the blockchain is not. In order to prevail, you need to obtain the right IP protection in the right jurisdiction.

For example, the claims of a U.S. patent should ideally be written to cover the portion of the crypto algorithm that is likely to be performed by a single US entity. If your claims cross borders or cover interactions between multiple entities, they will be more difficult to enforce,” explained Mulcahy. Fortunately, each of these difficulties can be overcome, according to Mulcahy, as long as you deal with them quickly-

Security Risks: Hackers and malevolent individuals can produce as much virtual cash as they like if they manipulate the system and are aware of how virtual currencies are made. This will make it possible by simply altering the account balances; one might generate virtual currency or steal virtual currency.

Impact on Real Monetary Systems: Since certain virtual currency systems are linked to actual monetary systems, they might have an impact on the supply and demand for real money. For instance, some platforms may decrease the need for real money by allowing users to pay with virtual currency for both virtual and real goods and services. Users will go from using real money to buying what they want to using virtual money.

Money laundering: One risk associated with the usage of VC, particularly with platforms that allow users to trade virtual currency for real money, is extremely likely to increase. In a real-world instance, the authorities in Korea detained a group of 14 people in 2008 for allegedly

laundering \$38 million acquired through the sale of virtual money. The gang transferred \$38 million from Korea to a paper company in China as payment for purchases. This money is earned by gold farming.

Bitcoin Black Market: Some social games, like Second Life and World of Warcraft, have developed enough financial positions to support a bitcoin black market for buying and selling. A booming illicit market for swapping virtual currency for real money has emerged as a result of the rising popularity of virtual currency in online environments. By looking at the forums for various social games, some fraud situations have been brought up and discussed by users. For instance, a player who decides to stop playing a game might want to sell whatever virtual currency they have by posting an offer in the game's forums. Receiving funds involves risk because many malicious people may choose not to complete the transaction or dispute after paying.

Conclusion

It's a very profitable time to introduce cryptocurrencies into the market because the second wave of the Novel Coronavirus has utterly destroyed the Indian economy. In addition to Wazirx, several additional blockchain-based Indian intermediary platforms are expected to be inspired by this move. It is extremely likely that the intermediary will be eliminated as a result of the central bank also launching its own coin because banks and other financial institutions will be directly involved in cryptocurrencies. Cryptocurrencies provide a fresh, useful, and alluring payment method model that businesses can market and use to make money. In addition to conventional money, it offers an alternative payment method that makes it simple for users to conduct financial transactions including buying, selling, transferring, and exchanging. Despite offering a new currency with a variety of processes and methods and opening up many channels for digital financial transactions, cryptocurrency platforms are uncontrolled and unregulated. The study examined cryptocurrency platforms and gleaned a number of issues and difficulties, including the risk to the financial system and the lack of regulations that are seen as the primary issue with cryptocurrencies.

Due to the massive expansion and growth of options that the cryptocurrency system offers as well as the significant amount of bitcoin that is flowing through multiple systems, cryptocurrency has a big potential to become the next currency platform. Users should exercise particular caution while using virtual currency unless it is properly controlled.

The need to correctly enact IP laws develops in the current globalised culture where the internet connects people from all over the world. One such

cutting-edge technology that could exacerbate IP violation is blockchain. As a final point, given that cryptocurrencies are still unregulated, it is crucial to protect one's own intellectual property rights.

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A Study on Role of Green Accounting in Sustainable Development

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Abstract

Green accounting refers to the practice of accounting for the economic, social, and environmental impacts of business activities. With the growing awareness of the need for sustainable development, green accounting has become increasingly important in today's scenario. The role of green accounting is vital in promoting sustainable development as it provides a comprehensive view of the costs and benefits of business activities. It enables organizations to make informed decisions that balance economic growth with environmental conservation and social responsibility. Green accounting also helps in identifying the environmental costs of business activities, such as pollution, greenhouse gas emissions, and depletion of natural resources, which are often overlooked in traditional accounting methods. In today's scenario, where climate change and environmental degradation have become major concerns, green accounting can play a crucial role in addressing these challenges. By promoting sustainable practices and measuring the environmental and social impacts of business activities, it can contribute to the achievement of the Sustainable Development Goals (SDGs) set by the United Nations. Moreover, green accounting can also provide useful information to stakeholders such as investors, customers, and policymakers, enabling them to make informed decisions that support sustainable development. This, in turn, can enhance the reputation of organizations and contribute to their long-term financial sustainability. In conclusion, the role of green accounting in today's scenario is critical in promoting sustainable development, addressing environmental and social challenges, and enabling informed decision-making. Its importance is expected to grow in the coming years as organizations increasingly recognize the need to balance economic growth with environmental and social responsibility.

Key Words: *Green Accounting, Sustainable development, environmental challenges, social challenges*

Introduction

Environmental accounting, also known as green accounting, is the a method of accounting that integrates environmental costs, their impact, and it's consequences. The aggregate of statistics is closely related. The financial aspect of the business has a lasting effect on both the organization's economic and environmental policies. This has to do with undertaking social cost-benefit analyses of a number of initiatives and activities of the company as well as environmental products and services valuation produced. Thus, ecological accounting results in a greater understanding of the cost of future pollution and the increase in human capital. (Haripriya Gundimeda, 2005).

It is an endeavor by the company to depict the nature of exhaustion resources and costs incurred by the organization for their utilization. This method of accounting is all about account transparency in a business both monetary and tangible quantities. Consequently, the standard practice of ecological accounting entails the identification, measurement, and allocation of dormant environmental resources in terms of environmental expenses, the incorporation of such costs firm's operations, identifying environmental liabilities of the firm, and the dissemination of the results to the shareholders and other interested parties of the company as financial statements (Alok Kumar Pramanik, 2002).

Green accounting can also be used to disclose environmental information, relevant data, whether or not audited, regarding environmental concerns and impacts, policy costs, and liabilities. Corporate environmental security or Corporate policies include environmental reports and initiatives. The environmental impact of its production process and product is measured in qualitative and quantitative dimensions. This impact report is required for sustainable growth as the report considers current, historical, and prospective costs for Controlling pollution, reducing toxicity and industrial residues, and eradicating waste environmental costs and benefits, as well as the capital expenditure incurred in both the products and methods. (Qureshi, 2016)

Environmental social responsibility is a central topic of discussion in today's business landscape. This responsibility includes environmentally responsible accounting practices. The fundamental purpose of this accounting practice is to propose and collaborate on all environmental inflows, such as stocks of tangible materials a company's assets, utilized resources, and total stock reserve. Environmental concerns and alterations to reduce environmental

impacts through enhanced and innovative products and product design that result in no negative environmental impact. Environmental damage must be minimized so as to preserve and provide opportunities for sustainable development for generations to come. Ultimately, this leads to identifying firm's environmental expenditures as a percentage of gross domestic product which is required to mitigate the negative effects of corporate activity on firm's national economic development (Nasir Zameer Quershi, 2012).

The current green concept is to restore ecology and enhance the environment and maintain the sustainable operation of future environmental resources generations. Thus, this form of accounting can be termed as environmental accounting as the concept holds equal significance in product design and development process. However, compliance with environmental reporting alone is not sufficient to meet the disclosure requirements. These reports must be produced in an original manner so as to create room for development. Internet journalism is among the popular method of reporting. The data for such reports can be gathered from environmental policies, their effects, management systems, and performance objective reports (Malarvizhi, P., 2008). In this context, the objective of this study is to investigate the theoretical foundations of ecological accounting, its applications, advantages and limitations.

Conceptual Underpinnings of Green Accounting and Reporting

The green accounting method combines economic and environmental considerations of accounting practices. It describes the business' environmental analysis generating the desired level of performance, and in the end, analyzing the necessary abilities for data measurement and compilation. These accounts are in corporate firm standards and regulatory purpose standards. Introduction of green accounting in developing nations is a tremendous economic boon as it raises awareness towards environmental degradation, its protection, and preservation. The improvement of the environment It helps in educating the corporate firms and general public about the significance of the environment in the expansion of the economy of the country. It results in companies being required to pay for the use of resources and substances that may or may not have affected the environment adversely. Through the use of ecological accounting, corporations and companies reserve funds for environmental pollution control and Ecosystem equilibrium. Thus, firms prepare for the introduction of ecological accounting by preparing separate environmental policies and implement the necessary measures to control and reduce the pollution, the related government rules and regulations must also

be followed. Lastly, mentioning sufficient information about environmental analysis in the annual statements and reports is crucial. Differences in the firm's reports and statements are possible. due to the accountant's use of various environmental accounting methods. The social values of the company in the relevant scenario and its underlying assumptions affect its accounting practices. Use of ecological accounting practices result in reduced cost and more production. Technological advancements help in reduced wastage and increased productivity. It also helps in preventing pollution by altering treatment strategies to manage the limits of pollution and environmentally responsible product design. Ultimately, this results in environmental friendly production of the products. As a consequence of its design, the production line has an effect on the environment products without toxicity or environmental contamination, enhancing the environment by designing an environment favorable for maintenance. As a consequence of using the green accounting method, there are economic benefits such as sustainable development and enterprise sustainability. Green accounting's approval as a Generally Accepted Accounting Principle (GAAP) is a significant development. The groundwork has been laid for sustainable development for future generations.

Consequently, the practice of green accounting consists of identifying environmental reporting parameters, defining the firm's reporting parameters: environmental reporting a parameter of the company that specifies the environmental goals to be attained, creating environmental performance indicators, mapping the environmental performance outcomes, and ultimately reporting the performance statistics.

Steps in implementing ecological accounting:

1. The first step in green accounting is identifying environmental impacts and reporting parameters for the organization. In the procedure, the company identifies reporting parameters, including environmental safety and health environmental protection, environmental energy conservation, and scopes of corporate sustainability, waste management, and source development. Wind, solar, and hydropower are examples of renewable energies.
2. The second step involves identifying the environmental parameters of the company. In this procedure, the company explicitly defines the operational means. of each parameter and determines what fundamentals the company desires to have. Long-term measurements of each parameter are required.

3. In the third phase of the procedure, the organization formulates the Both short-term and long-term environmental objectives must be met. The organization ensures that the short- and long-term goals are mutually supportive and interlinked.
4. The fourth phase of ecological accounting is concerned with establishing the indicators of environmental performance, such as environmental frameworks, standards for health and safety provision, and energy conservation practices.
5. The fifth phase involves measuring environmental efficacy. Indicators that could be qualitative or quantitative, for example frameworks for environmental policy must be measured quantitatively. Moreover, the waste management framework must be quantified.
6. This technique of accounting concludes with reporting the environmental performance results. These are included in the company's annual report and combine it with the financial performance in order to demonstrate the environmental impact on the firm's financial performance.

Green Accounting Scope

1. Environment expenditures and expenses

Expenses and costs associated with environmental issues, such as remediation expenditures for production, research, and developments regarding the environment are always incurred prior to the launch of a product. Other environmental expenditures include: Capital expenditures, research and development expenses, and planning fees, expenses for administration, plant operations, and corrective measures subsequently, production facility recovery measures.

2. Investment in environmental expenditures

This is appropriate if the cost of environmental expenses exceeds the life of the company or enhancing its capacity or productivity. The firm's properties, as well as renovation expenses, are included and costs associated with the property's preparation for sale is also considered. These expenditures are in contrast with those at the time of acquisition.

3. Environmental Liabilities

The company is required by law to make additional contributions to recompense environmental damages that have transpired in the past occurrences caused by the company's negligence and performance. A payment may also be made to compensate a third party who has suffered

a loss as a result of the company's actions. Such liabilities may be either quantifiable or non-quantifiable. The latter cannot be precisely measured and projected into the future financial statement of the company.

4. Environmental revenues and benefits

It is measured by monetary and physical values. It is the total amount of the benefits accrued by the company as a result of prevention, reduction, and avoidance of environmental damages, its impact, and mitigation of such an impact as a result of the company's actions.

5. Environmental Assets

These assets are owned by the company as a consequence of environmental regulations and voluntary company activities. These assets are created by humans, such as pollution control bonds environmental protection instruments. All such assets are either current or noncurrent monetary or physical assets.

Constraints of Green Accounting

Since there is no established standard for ecological accounting, comparisons must be made between two businesses or countries is nearly impossible. The source for Green accounting is difficult to calculate due to its costs and benefits. The units received are qualitative. Large-scale corporations and governments Organizations do not manage and record energy and material costs adequately. Consequently, only the expenditure of such resources on the company as opposed to society as a whole. The totality of ecological accounting integrating financial accounting, management accounting, and cost accounting, tax accounting, and national accounting.

Sustainable Accounting Procedures in India

Green accounting was practiced in India prior to the enactment of 2013 Companies Act while industrial licensing has been eliminated, for operational procedures and the state's environmental certification has assumed center stage. Article 51A of the Constitution of India the directive principles of state policies assert that it is the responsibility of every Indian citizen to preserve and enhance the natural environment, including forests, lakes, rivers, and fauna. This fundamental obligation is reinforced by a number of statutes such as: 1948's Factories Act; 1974's Prevention and Control of Pollution Act Forest (Conservation) Act of 1980; Air (Prevention and Control of Pollution) Act of 1990, 1981's Act; 1986's Environment (Protection) Act; 1991's Motor Vehicle Act; Indian Penal Code, 1860; Public Liability

Insurance Act, 1991; Indian Penal Code, 1860 Radiation Protection Rules, 1987; Fisheries Act, 1987; Atomic Energy Act, 1962, 1971; the Chemical Weapons Convention Act of 2002; and the Wildlife Conservation Act of 1973. Act. The Ministry of Environment and Forests in each state and central level issue guidelines for ongoing and new initiatives in order to acquire environmental and anti-pollution purifications prior to the start of the business.

However, practices are a far cry from what was expected. Very few businesses in India provide sufficient information regarding the environmental issue. Despite the awareness regarding green accounting, businesses provide inadequate information contained within their annual reports. The practice of ecological accounting has not yet become widespread. It is a burden on corporate profits rather than being advantageous to the company.

Materials and Procedures

The information for this research paper came from secondary sources, such as the internet, research papers, journals, online articles, print magazines, etc.

Hypothesis:

Null Hypothesis (H₀) There is no significant difference between the advantages of ecological accounting and financial accounting. *Alternate Hypothesis H₁*: There is a significant distinction between ecological accounting and financial accounting advantages.

Conclusion

Global acceptance of environmental accounting is in its infancy. Companies and businesses generally comply with government regulations. The public must be made aware of environmental safety and protection and sustainable environmental development in order to ensure that future generations will benefit from the seedlings planted in the past. Using the In response to the accelerating rate of global warming, environmental policies such as measures to reduce pollution and investigate new eco-friendly procurement strategies and products. For sustainable economic growth, clearly defined Environmental policies must be implemented and adhered to in a systematic manner.

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Chapter-19

Promoting Financial Inclusion in India: A Comparative Study of Pradhan Mantri Jan Dhan Yojana and Swabhiman Yojna

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Abstract

Particularly in emerging nations like India, financial inclusion is a critical tool for economic growth and development. The Pradhan Mantri Jan Dhan Yojana (PMJDY) and Swabhiman Yojana are two recent financial inclusion initiatives launched by the Indian government. This essay compares and contrasts these two programmes, identifies their advantages and disadvantages, and evaluates how they will affect financial inclusion in India. The article also evaluates pertinent academic research on financial inclusion in India and offers suggestions for enhancing existing programmes to further the cause of financial inclusion in the nation.

Keywords: *Financial Inclusion, Pradhan Mantri Jan Dhan Yojana, Swabhiman Yojana, India, Economic Growth.*

Introduction

Financial inclusion is the practise of offering low-income people and underserved communities access to cheap financial services like banking, insurance, and credit. It is an essential tool for eradicating poverty and fostering economic growth since it lets people to save money, make investments in their companies, and obtain loans to grow those companies.

Over the past several years, India has made considerable strides towards expanding financial inclusion thanks to the government's implementation

of numerous initiatives and schemes to broaden access to financial services. The Pradhan Mantri Jan Dhan Yojana (PMJDY) and Swabhiman Yojana are two of the most renowned programmes.

The PMJDY is a national initiative that was started in 2014 with the goal of giving all Indian households access to banking services. The programme intends to give each household access to credit, insurance, and pension plans as well as a bank account, a RuPay debit card, and other financial services. In 2010, the Swabhiman Yojana was introduced with the intention of fostering financial inclusion, particularly in rural areas. The programme strives to reach out to remote and underserved areas where banks are not present and provide banking services through a network of banking correspondents.

This paper compares and contrasts these two programmes, identifies their advantages and disadvantages, and evaluates how they will affect financial inclusion in India. This paper also evaluates pertinent academic research on financial inclusion in India and offers suggestions for enhancing existing programmes to further the cause of financial inclusion in the nation.

Review of Literature

The review of literature for this paper primarily focuses on two government schemes launched in India to promote financial inclusion - Pradhan Mantri Jan Dhan Yojana (PMJDY) and Swabhiman Yojana. The review is organized into four subsections, starting with a brief introduction to financial inclusion in India.

Financial inclusion has been a major policy objective in India for over a decade. It refers to the provision of financial services such as savings, credit, insurance, and remittance facilities to the hitherto excluded sections of society. The RBI defines financial inclusion as “the process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low-income groups in particular at an affordable cost in a fair and transparent manner by regulated mainstream institutional players.”

PMJDY

Pradhan Mantri Jan Dhan Yojana (PMJDY) was launched in August 2014 with the aim of providing universal access to banking services, especially to the unbanked and underbanked population in India. The PMJDY scheme has been the subject of extensive research, with a particular focus on its impact on financial inclusion.

Sharma and Singh (2018) analyzed the impact of PMJDY on financial inclusion in India and found that the scheme has been successful in increasing the number of bank accounts opened, especially in rural areas. They also noted that PMJDY has contributed to an increase in the use of electronic payment systems, which can help reduce the dependence on cash transactions and improve financial inclusion.

Verma and Singh (2019) reviewed the PMJDY scheme and concluded that it has been successful in achieving its objectives of providing banking services to the unbanked population and promoting financial inclusion. They highlighted the importance of financial literacy programs in ensuring the sustainability of the scheme and called for greater efforts in this regard.

Chakrabarty and Bhowmick (2020) conducted a study on the impact of PMJDY in rural West Bengal and found that the scheme has been successful in increasing financial inclusion, particularly among women and marginalized sections of society. They also noted that the scheme has contributed to an increase in the use of digital payment systems, which can help reduce the cost of transactions and improve financial inclusion.

Swabhiman Yojana

Swabhiman Yojana was launched in 2011 with the aim of providing banking services to unbanked villages in India. The scheme was implemented through a combination of banking correspondents (BCs), who provide basic banking services in rural areas, and business correspondents (BCs), who offer more advanced banking services.

Kaur (2018) analyzed the impact of Swabhiman Yojana on financial inclusion in India and found that the scheme has been successful in providing banking services to unbanked villages. However, she noted that the scheme has faced several challenges, such as the lack of adequate infrastructure and the low level of financial literacy among the rural population.

The Reserve Bank of India (2016) published a report on financial inclusion in India, which includes an assessment of the Swabhiman Yojana scheme. The report noted that the scheme has made significant progress in providing banking services to unbanked villages but highlighted the need for greater efforts in financial literacy and awareness programs.

Siddiqui and Kaur (2019) conducted a study on the impact of Swabhiman Yojana on financial inclusion in India and found that the scheme has been successful in providing banking services to unbanked villages. However, they also noted that the scheme has faced challenges in terms of the quality

of service provided by BCs, as well as issues related to the sustainability of the scheme.

Comparative Studies

Several comparative studies have been conducted to compare the impact of PMJDY and Swabhiman Yojana on financial inclusion in India.

Kumar et al. (2018) conducted a comparative study of the two schemes and found that PMJDY has been more successful in achieving its objectives of financial inclusion compared to Swabhiman Yojana. They noted that PMJDY has led to a significant increase in the number of bank accounts opened, especially in rural areas, and has contributed to an increase in the use of electronic payment systems.

Sharma and Kumari (2020) also conducted a comparative study of PMJDY and Swabhiman Yojana and found that PMJDY has been more successful in achieving its objectives of financial inclusion. They noted that PMJDY has contributed to an increase in the number of bank accounts opened, an increase in the use of electronic payment systems, and an improvement in financial literacy levels.

Other Studies

In addition to the above studies, there have been several other studies on financial inclusion in India that are relevant to this paper. For example, Kaul and Bawa (2017) analyzed the impact of financial inclusion on poverty reduction in India and found that financial inclusion can help reduce poverty by providing access to credit and other financial services.

Karthik et al. (2018) conducted a study on the role of financial inclusion in promoting entrepreneurship in India and found that financial inclusion can help promote entrepreneurship by providing access to credit and other financial services.

Methodology

This paper is based on a thorough analysis of the literature on the Pradhan Mantri Jan Dhan Yojana (PMJDY) and Swabhiman Yojana, two financial inclusion programmes in India. This analysis compares the two programmes in order to determine how they will affect financial inclusion in India.

JSTOR, Google Scholar, and ProQuest were only a few of the academic databases that were used in the literature search. Studies on

PMJDY and Swabhiman Yojana, their effects on financial inclusion in India, and comparisons of the two programmes were the inclusion criteria. Studies that failed to fit these requirements were not included in the analysis.

A total of 10 studies were selected for the review, including academic papers, reports, and government documents. The data from these studies were analyzed using a thematic analysis approach.

Results

The analysis demonstrates that PMJDY and Swabhiman Yojana both contributed significantly to the rise in financial inclusion in India, with PMJDY having a higher success rate in meeting its goals. The use of electronic payment methods has increased, bank account openings have increased significantly, and financial literacy levels have improved as a result of PMJDY.

With over 437 million bank accounts opened as part of the PMJDY programme, it has successfully increased both household financial literacy and access to banking services. As a result, more people are using digital financial services for transactions and saving money. With the deployment of more than 73,000 banking correspondents nationwide, the Swabhiman Yojana has effectively reached India's remote and underserved areas, bringing banking services to more than 90,000 villages and boosting financial inclusion there.

The literature does, however, point out a number of difficulties that these schemes face, including the standard of service offered by business correspondents, the longevity of the accounts opened under the schemes, ensuring the quality of banking services, avoiding fraud and poor management, and ensuring long-term sustainability. Another key obstacle to the effectiveness of these programmes is a general lack of understanding among the populace regarding the advantages of financial inclusion.

The reduction of poverty and the encouragement of entrepreneurship in India depend on the promotion of financial inclusion. The government must solve the difficulties these programmes confront and keep advancing financial literacy among the populace if it is to succeed in achieving the objective of universal financial inclusion.

Table contrasting Pradhan Mantri's salient characteristics Swabhiman Yojana and Jan Dhan Yojana

SCHEME	PMJDY	SWABHIMAN YOJANA
Objective	Universal access to banking facilities	Access to banking facilities in remote and underserved areas
Target Population	All households	People in remote areas
Account Opening	42.3 crore accounts opened as of March 2021	1.4 crore accounts opened as of March 2021
Electronic Payment System	RuPay debit cards distributed	No specific provision
Financial Literacy	Financial literacy camps conducted	Financial literacy programs conducted
Business Correspondents	Business correspondents used for account opening and transactions	Business correspondents used for account opening and transactions
Sustainability	Emphasis on sustainability through direct benefit transfer, overdraft facility, and insurance	Lack of sustainability due to low usage and high

Conclusion

The rural parts of India have greatly benefited from the government's efforts to promote financial inclusion through different programmes and initiatives. The paper compares and contrasts the Pradhan Mantri Jan Dhan Yojana and the Swabhiman Yojana, two of these programmes. The review of the literature demonstrates that both programmes have helped India become more financially inclusive. However, compared to Swabhiman Yojana, PMJDY has had better success in reaching its goals. As a result of PMJDY, more people are opening bank accounts, using electronic payment methods more frequently, and having better financial literacy. The quality of service offered by business correspondents, concerns regarding sustainability, lack of public awareness regarding the advantages of financial inclusion, the quality of banking services, promoting financial literacy and awareness, and increasing the usage of banking services are all obstacles that these schemes must overcome.

Through targeted interventions and policy reforms, it is imperative to address these issues and increase the efficacy of these programmes. Overall, this study emphasises how important it is to foster financial inclusion if India wants to reduce poverty and foster entrepreneurship. The government must continue to encourage financial literacy among the populace and

address the difficulties these programmes confront in order for the country to reach its aim of universal financial inclusion. Both the PMJDY and the Swabhiman Yojana have been effective in fostering financial inclusion in India, however the PMJDY has been more successful in granting everyone access to banking services while the Swabhiman Yojana has been more successful in reaching out to remote and underserved areas.

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The Dark side of Internet and its Impact

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Abstract

Internet has become an increasingly important part of everyday life for people across the globe. With the Internet, it's possible to access almost any information, communicate with anyone all over the world, and do much more. In addition to the regular browsing tasks, one can also access the malicious unauthorised content on the internet. This dark side to the internet is called the Dark web. Dark web refers to the content that is hidden deliberately on the internet and requires special software like TOR browser for access. This paper attempts to tender an understanding of the dark web and its impact on our lives. It also discusses the various layers of web and how the dark web is accessed.

Introduction

Over a period of time Internet has revolutionized the entire computer and communications world like nothing before. Internet with its broadcasting capability all over the world, is used as a medium to disseminate information, establish collaboration and interaction between users and their computers irrespective of the geographical location. Lives of billions of people have been affected due to the speedy development of the Internet. Every minute detail of our life has been deeply perforated because of the network. Apart from providing opportunities to explore the world through a desk, Internet has become a powerful virtual resource of intelligence. The Internet is indeed a connection that enables users to access the World Wide Web. The web possess far more secrets that we cannot even think of. Internet has been considered analogous to an Iceberg consisting of 3 layers namely – the surface web, the deep web and the dark web, as explained by Data Scientist, Denis Shestakov. The visible part of the iceberg contains all the

content that is indexable by search engines. Whereas the pages on Deep Web cannot be indexed by the search engines and it requires a special authorization to access it. Finally, the deepest layer – Dark Web, is only accessible illegally using a special software like the onion router or TOR and proxy chains. These dark websites are not listed on the search engine tables and not available on the domain name server ensuring high anonymity and encryption. The dark web is a hidden and illegal virtual place that any internet user can access. These unspecified virtual places on the dark network are ban and are illegal components that have increased crimes on the dark web and affected the lives of ordinary and innocent people to a great extent. It is troublesome and nearly impossible for enforcement officers to trace the identity of those cybercriminals, which are exploiting the network loopholes. According to The Onion Routing (TOR) Project, anonymity is achieved through encryption and routing traffic through multiple nodes on the network (Jardine, 2018). Anonymity is misused and gives way to many cybercrimes resulting in identity theft, internet fraud, financial theft, data theft, cyber extortion, cyber espionage, drug marketing, and terrorism (Dalins et al., 2018).

Internet Structure

Many confuse the Internet with the World Wide Web (web); they are not synonymous. Instead, the web is one portion of the Internet, and a medium through which information may be accessed. Some may visualize the web as consisting solely of the websites accessible through a traditional search engine such as Google. However, this content—known as the “Surface Web”—is only one portion of the web. The remaining portion constitutes of the deep web and the dark web. The *Deep Web* refers to “a class of content on the Internet that, for various technical reasons, is not indexed by search engines” and thus would not be accessible through a traditional search engine. Information available on the Deep Web includes content on private intranets (internal networks such as those at corporations, government agencies, or universities), commercial databases or sites that produce content via search queries or forms. Going even further deep into the web, the *Dark Web* is a portion of the Deep Web that has been *intentionally* hidden. The Dark Web in general represents hidden Internet sites that users cannot access without using special software. While the content of these sites may be accessible, the administrators of these sites remain masked. Users access the Dark Web with the presumption of being able to share information and/or files with little risk of detection.

Surface Web

The surface web looks like an enormous amount of knowledge but it is just the tip of the iceberg that is visible to all constituting only 4% of the entire web (Balhara et al., 2021). The ‘surface web’ is accessible via web crawlers and search engines such as Google, Bing, Yahoo etc. The search engines work by crawling and indexing the webpages accessible on the web to make it available for users. They rank these websites to display the most relevant results to the user. To summarize, Surface Web is the default and basic level of the internet that everyone is aware of and use on a regular basis. This is the primary level of the internet which is visible to all who access the internet. This platform includes websites which are filled with data that can be always indexed by any search engine (Thampi, 2021).



Fig -1. Internet Structure

Source: <https://ifflab.org/the-layers-of-the-web-surface-web-deep-web-and-dark-web/>

Deep Web

Deep Web is a part of the unnoticeable web that a normal user cannot access. This is so mainly because it contains data that cannot be crawled and indexed by search engines. One can access the Deep Web only if one has the login credentials for the same. The data stored in the deep web ranges from personal information (military data, cloud data or any organization’s

personal data) to financial records, academic databases, legal dossiers, medical records, social media profile information, and scientific and government records. Deep web is also referred to as “the Undernet” and “the Hidden web”. It is a hidden part of the web that is not visible to the day-to-day user of the Internet (Upulie & Prasanga, 2021).

Dark Web

The Dark Web is the innermost layer of the web and a subset of the Deep Web. However, unlike the Deep Web, the Dark Web is completely illegitimate, banned, prohibited and unlawful. It is an encrypted section of the web that offers complete invisibility as it is not indexed by search engines. The dark web is intentionally hidden from the surface web and can only be accessed with the use of a special group of browsers that allows the users to navigate through through the dark web secretly and anonymously. The anonymity of the users enables them in situations that are legal as well as illegal. This adds a shield for the individuals who wish to use the dark web for criminal purposes, with little chance of being discovered. The dark web consists of a set of websites that are somewhat similar to the specific web pages on the surface web. These websites act as a baseline for web clients with a need for anonymity against unlicensed users (Montieri et al., 2019). It also offers encryption for the user that is beneficial in preventing being monitored.

Cybercrimes in Dark Web

The dark web grants the users complete anonymity when browsing through the Internet making various activities that are considered illegal possible, including drug marketplaces, weaponry markets, credit fraud, identity theft, sensitive information leakage etc. Criminal activity has been made easy with the existence of the dark web. The dark web motivates young hackers to get involved by helping earn money through it. Hence, the darkweb has unwittingly become a recruiting tool for people interested in finding a living off of it. Thus, the existence of the dark web has allowed and even flourished the co-existence of malicious users. Various research names the dark web as “a planet of cybercrime” (Rajamanickam & Zolkipli, 2021) signifying the variety and spread of crime in it. However, in contrast to the offensive nature of cyber criminals, internet users, both the dark web and surface web, must stay aware in a defensive manner in order to save themselves from cybercrimes (Easttom, 2018). This section continues to discuss a few of the most well-known crimes on the dark web.

A. Proxying

Anonymity feature of the dark web has made users are more prone to proxying attacks because of the missing hypertext transfer protocol (https), typically available in standard Uniform Resource Locators (URL). Therefore, the safety precautions that come along with https is omitted. Proxying occurs when the website and the user are intervened by a hacker, where the hacker tricks the users into believing the source of the website they have altered. A typical transaction using a non-traceable cryptocurrency such as bitcoin on such a website will scam the user while the hacker transfers the money. Black Death is a popular dark web group chat that changes its URL regularly. The user must mark each of the sites with an application like a bookmark in order to visit and verify the validity of their sites without falling into the hands of hackers and fraudsters.

B. Drugs, Weapons and exotic animals

A surface web marketplace website such as eBay has been replicated by illegal websites such as Silk Road on the dark web dealing in books, clothes, unlicensed medicines, illicit substances, weaponries, and exotic animals. The standard structure of such a web page includes tiles of such items, a short description, and an image of the item for sale (Bartlett, 2014). All the transactions occur in crypto currencies. A dark web website Alpha Bay's became the world's largest drug marketplace after a similar website Agora, was shut down in 2020. Dream Market, Valhalla, and Wall Street Market are a few other popular drug marketplaces on the dark web. However, these illegal activities are mostly limited to selling than business handling. According to a report on the dark web, the assumable reason behind this scenario is the anonymous nature of the sellers, which results in a loss of reputation (Kadoguchi et al., 2019).

C. Terrorism

Secretive communication is a vital factor to form a terrorist group. The need for terrorism to equip an anonymous network that is easily obtainable yet masked away from the general Internet is satisfied with the dark web. The dark web allows easy untraceable shut down of its sites to conduct propaganda, recruitment, financing and plotting, making it the best suitable mode for promotion of terrorism (Chertoff & Simon, 2015).

D. Financial Fraud

The dark web contains different types of financial fraud. The most common type of financial fraud available on the dark web takes the form of phishing, where a user is redirected to an identical looking website that they wish to visit. However, the website is not the same, and the services

promised to offer could be fraudulent. Identifying such a phishing site is rather a difficult task as dark web sites constantly change their domains and their aesthetic looks on the sites, resulting in no possible fixed structure resembling a standardised site. Unlike surface web fraud, where you could complain and take legal action against some convicted party, financial fraud on the dark web can't be used against the opposite party. This is primarily due to the intractability and the anonymous nature of the opposite party.

E. Arms Trafficking

Arms trafficking is one other specification the dark web is famous for. A website named Euroarms sells all kinds of weapons with the addition of getting them delivered to any address specified. The ammunition for the arms is said to be had brought separately apart from the gun (Love, 2013).

F. Gambling

Although a trade that happens on and off the dark web, gambling on the dark web involves cryptocurrency. Due to tight restrictions and prosecutions from the U.S. government, many famous BitCoin gambling sites have blocked the U.S. specific I.P. addresses. However, with dark web users are free to gamble as they please with their current I.P. addresses (O'Neill, 2013).

G. Paedophilia

Much to the disgust of the general public eye, the dark web allows easy access to child pornographic material, which is otherwise difficult to find as a surface internet user. The abbreviation of C.P. is much common in place of child pornography on the dark web making to the realisation of how common paedophilia might be on the dark web. It is also said that the dark web enables the participation of paedophiles by providing many different types of sites and forums. A monitoring report on the network traffic on Tor has noted that the highest traffic on its hidden sites is associated with the child pornographic content. This raises loathing questions regarding the children and minors used for such actions. Such site that was taken down named Lolita City was recorded to contain around 100GBs of content, including images and videos with over 15 000 recorded users. The FBI also took down the largest child pornographic site known, named Playpen with over 200 000 recorded users in 2015. This was achieved using a hacking tool that uses tracking down of the I.P. addresses to identify site users.

H. Human trafficking

Human trafficking could be considered another inhumane transaction on the dark web. Humans are trafficked in order to recruit as sex workers or labourers by these sites. "Black Death", "The British model Chloe Ayling"

are two famous websites known for human trafficking. The Dark Web has also been accused of aiding in covering up a wide range of crimes, including drugs trafficking and weaponry trafficking.

Dark Web Access Mechanism

Since the contents of dark web are not visible to the normal search engines due to lack of indexing between them, an anonymous browser called the TOR browser is used to operate the dark web. TOR browser makes use of the onion routing for the encryption and rerouting of the web traffic through TOR's onion network. After securing data inside multiple layers of encryption, web traffic is transmitted through a series of network nodes, called onion routers. Each router (or node) sheds off a layer of encryption until completely decrypted data reaches its final destination (Ghimiray, 2023). TOR anonymously transmits encrypted data across three layers of network nodes making up the Tor circuit, namely:

1. **Entry/Guard node:** The TOR Browser initially connects to a random publicly known entry node. Through this node the data enters the Tor circuit.
2. **Middle nodes:** Here the data is completely encrypted and then it is sent through a series of nodes which decrypt the data one layer at a time. To ensure invisibility, the identity of only the preceding and the following node is known to the middle node.
3. **Exit node:** After shedding off the last layer of encryption, the decrypted data finally leaves the TOR network via an exit node and reaches its final server destination.

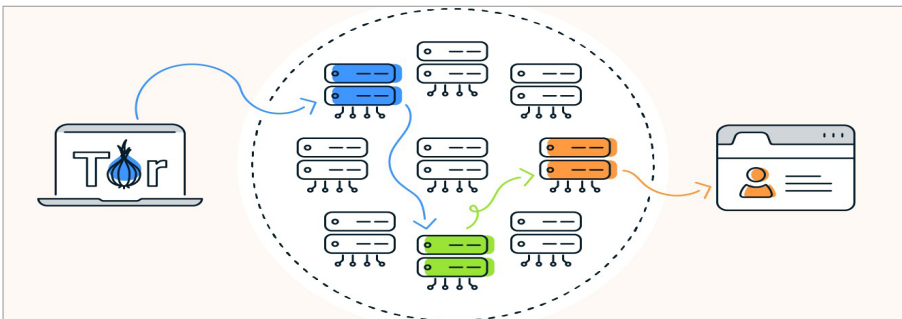


Fig -2. Dark web access Mechanism using TOR Browser

Source: <https://www.avast.com/c-tor-dark-web-browser#:~:text=dark%20web%20browser,-How%20does%20Tor%2C%20the%20dark%20web%20browser%2C%20work%3F,network%20nodes%2C%20called%20onion%20routers>

Conclusion

Dark web, the deeper layer of world's largest communication network –Internet, is usually used by the users to do some activity in a hidden manner without leaving any traces. The explicit categorisation under the detailed domains of crimes proves that the dark web is an epicentre of criminal activities like child pornography, arms trafficking, drug trafficking, proxying etc. The anonymity provided over this platform is the main reason behind these deep rooted criminal activities serving as a gateway to the criminal world.

The vast domains available under the dark web are occupied by different types of dangerous groups ranging from thieves and terrorists to espionage. These groups might target any vulnerable persons or businesses without national borders in order to gain profit. Due to the untraceable nature of the crimes conducted, law enforcement has a hard time regulating the exploitations within all times border national and regional due to the Internet's borderless nature. There are number of attacks which are launched over this platform and the ransom amount is taken in the form of bit coin over the Dark Net. It is also used by governments of the different countries for the sake of confidentiality. It can be concluded that the pros and cons of Dark Web depend upon the intentions of the user. Hence the internet users must remain vigilant while using the internet in order not to fall trap to these malicious activities on the dark web.

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A Study on the Role of Social Enterprises on Creating Health Education Awareness Among Children and Adolescents for Proper Nutrition, and Prevention of Obesity, Lifestyle Chronic Diseases and Child Diabetes in India: A Qualitative Study Based on Select Case Studies

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Abstract

Introduction- Childhood obesity is a growing problem in India that can lead to chronic diseases, psychological problems, and social stigma. Social enterprises are businesses that aim to solve social problems, such as childhood obesity.

Literature Review- *This study reviews the literature on social enterprises working in India to prevent and manage childhood obesity and its related health issues.*

Research Methodology- *The study was qualitative. It involved a comprehensive review of literature, including journals, cases, news articles, and websites related to social enterprises working in the field of lifestyle chronic diseases and diabetes. A thematic analysis of secondary data from published case studies and available literature of select social enterprises operating in India was also conducted.*

Findings- *The study finds that social enterprises play an important role in educating and supporting children and their families on healthy living.*

Implications- *This study highlight the potential of social enterprises in addressing childhood obesity in India. Such organizations may help lower the overall incidence of childhood obesity and the health hazards it carries by focusing health education, encouraging healthy eating, and cultivating a supportive environment. This will enhance the general wellbeing of the children.*

Conclusion- *Childhood obesity is a significant issue in India, with detrimental effects on health and well-being. Social enterprises could help a lot to solve this problem by educating, helping, and advocating for healthier environments. A greater amount of research is needed to figure out how well these enterprises help fight childhood obesity.*

Key words: *Social Enterprise, child nutrition, child obesity, lifestyle chronic diseases, childhood diabetes, new technologies.*

Introduction

India is facing a growing epidemic of obesity, lifestyle chronic diseases, and child diabetes. These diseases are largely preventable through proper nutrition and exercise, but many children and adolescents in India do not have access to the information or resources they need to make healthy choices.¹ Social enterprises can play a vital role in creating health education awareness and promoting healthy lifestyles among children and adolescents in India.

Proper nutrition is essential for children and adolescents due to several reasons. One of the most significant reasons is that they are at a critical stage of growth and development, necessitating a diet that furnishes them with the necessary nutrients for building strong bones, muscles, and organs. A further contributor is the high prevalence of obesity in children and adolescents, which contributes to serious health issues like coronary heart disease, diabetes, especially type 2 diabetes, and hypertension. A nutritious diet can aid adolescents and kids in maintaining their ideal weight and preventing such long-term health issues.¹⁰

Furthermore, a balanced and nutritious diet provides children and adolescents with sufficient energy to learn, play, and grow, enhancing their mood and concentration. A nutritious diet can also lower your chance of developing chronic diseases like certain cancers, cardiac arrest, and cardiovascular disease.³ It is the responsibility of parents and caregivers to ensure that children and adolescents have access to a healthy diet, consisting of ample fruits, vegetables, and whole grains, while limiting the consumption of unhealthy foods like processed foods, sugary drinks, and fast food.

By promoting healthy eating habits, parents and caregivers can establish a foundation for a lifetime of good health in children and adolescents.⁵

The World Obesity Federation predicts that by 2030, India will have over 27 million children with obesity. This raises alarm because obesity is a serious health issue that increases the risk of developing a number of chronic illnesses, including cardiovascular disease, stroke, especially type 2 diabetes. Childhood obesity is predicted to affect 10.81% of children aged 5 to 9 and 6.23% of adolescents aged 10 to 19 years. Obesity in children is caused by a variety of things, including poor eating habits, inactivity, and genetic susceptibility. It is crucial to take action to avoid obesity among children, such as encouraging a healthy diet and regular exercise.⁷

The exact causes of diabetes are not fully understood, but research suggests that some people may inherit a gene that increases their risk of developing the condition. Additionally, a number of elements, including poor dietary practices and inactivity, may lead to the rise in instances of diabetes in children.¹⁰ If children eat an excessive number of foods that are packed with sugar and fat and don't take any essential supplements, they can acquire weight quickly. Sweets, fried foods, soft drinks and various other processed foods are often rich in hidden sugars and make a significant contribution to unhealthy eating habits. Convenience foods like pre-packaged meals, salty snacks, and fried foods like samosas are often lacking in nutrients and high in carbohydrates, providing little nutritional value for children.⁹

The lack of play areas causes children to spend more time indoors using electronic devices and not engaging in physical activities. Children are often burdened with extracurricular activities and private lessons, which leaves them with no time or energy to play. This lack of physical activity can lead to obesity. A lot of people believe that exercising can help them avoid becoming obese. Obesity increases the possibility of developing type 2 diabetes, a disorder where abnormal glucose metabolism leads to increased blood sugar levels. Diabetes can lead to eye and kidney problems as well as nerve damage. Adopting a healthy diet and lifestyle can reverse this condition in both children and adults.

Social entrepreneurs are making a difference in the lives of children and teenagers in India by raising awareness about health. These enterprises give children the information and resources they need to make healthy decisions, thereby preventing obesity, lifestyle chronic diseases, and childhood diabetes. The social enterprises use a variety of methods, including school-based and community-based programs, as well as digital media platforms like social

media, websites, and mobile apps. The Indian Council of Medical Research and the World Health Organization have both found that these programs have a positive impact on the health of children and adolescents in India. Social enterprises are also partnering with schools, government agencies, and other organizations, creating educational materials and resources, and training teachers and community leaders to deliver health education messages. Overall, the work of social enterprises is a crucial effort to improve the health of children and adolescents in India.

Objectives of the Study

The study aims to:

1. To evaluate the frequency of excessive weight and obesity among children who attend urban schools and the subsequent link to diabetes, as well as to identify the elements that cause this condition.
2. To investigate the significance and function of social enterprises in the management of diabetes and educating parents of children about food and nutrition.
3. To develop a set of recommendations for policies that can be implemented by government agencies and other stakeholders to improve the management of diabetes.
4. To determine the extent to which technology may be used to improve the lifestyle and health-seeking behaviour of many children who have diabetes.

Literature Review

The growing problem of childhood obesity in India.

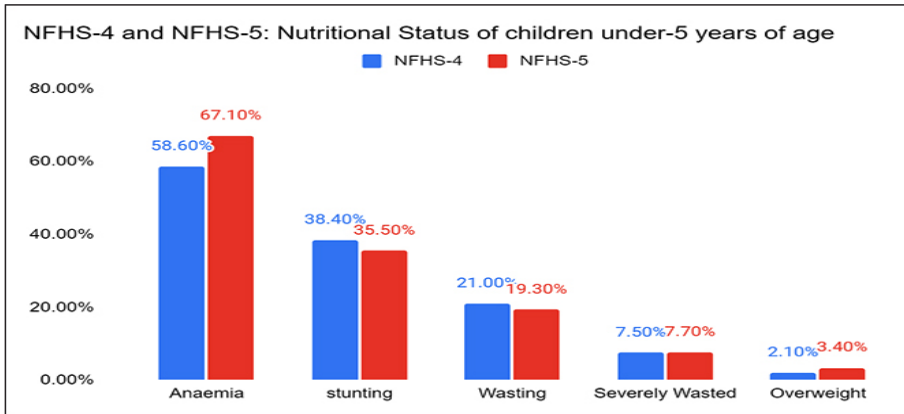
According to the latest National Family Health Survey (NFHS) 2019-21, which provides an extensive analysis of the health and nutrition status of men, women, and children in India, it is evident that the country continues to face significant challenges in these areas.

The survey's results indicate that there is a concerning prevalence of malnutrition among children in India. It reveals that 7.7% of children suffer from severe wasting, 19.3% experience wasting, and 35.5% are stunted. Additionally, there has been an increase in the percentage of overweight children, rising from 2.1% in the previous NFHS-4 survey to 3.4%.

These findings are concerning, as they suggest that India is not making significant progress in improving the health and nutrition of its population.

The government and other stakeholders need to take action to address these issues, such as by investing in healthcare, nutrition education, and food security programs. (Figure 1).

Figure 1: The Nutritional Condition of Children Below the Age of Five



Source: NFHS-5 survey

According to the data from the latest National Family Health Survey (NFHS) 5, there is a worrisome escalation of obesity in the majority of states and union territories. This emerging pattern is particularly alarming when it comes to children. The percentage of children classified as overweight has risen from 2.1% in NFHS-4 to 3.4% in NFHS-5. Consequently, a larger number of children are now grappling with the challenges of being overweight or obese, which can contribute to various health issues such as heart disease, stroke, and type 2 diabetes.

Childhood obesity is influenced by various factors, which encompass unhealthy dietary patterns, insufficient physical activity, and genetic susceptibility. To prevent the occurrence of childhood obesity, it is crucial to implement measures that foster healthy eating habits and encourage regular physical activity.

The annual release of the Childhood Obesity Atlas 2019, developed collaboratively by World Obesity, UNICEF, and the World Health Organization (WHO), provides up-to-date information on the prevalence of childhood obesity in 191 countries. The report found that the prevalence of childhood obesity has increased significantly in recent years. In 2019, an estimated 38.2 million children under the age of 5 were overweight or obese. This number is projected to increase to 50 million by 2030. The report also found that the likelihood of meeting the WHO's goal of no increase in obesity prevalence by 2025 is very low.

Table -1: Countries with more than one million school-aged children and adolescents who will be obese by 2030

Country	Number of persons with obesity, aged 5-19, 2030
China	61,987,920
India	27,481,141
United States of America	16,986,603
Indonesia	9,076,416
Brazil	7,664,422
Egypt	6,818,532
Mexico	6,550,276

Source: Childhood Obese Atlas 2019

The report underscores the immediate necessity to address the escalating problem of childhood obesity. It highlights the importance of initiatives such as encouraging balance diet and active living, curtailing the marketing of unhealthy foods, enhancing the availability and affordability of nutritious foods, establishing environments conducive to physical activity, and investing in research and development to devise innovative approaches for prevention and treatment.

Unhealthy Dietary Habits among School-Going Children in India

The percentage of children aged 5-19 years who are overweight or obese has increased from 18.3% in 2015-16 to 23.6% in 2019-20, according to the National Family Health Survey (NFHS)-5. Boys are more likely to be overweight or obese than girls, with 27.3% of boys being overweight or obese compared to 19.9% of girls. Among school-going children in India, prevalent unhealthy eating patterns consist of excessive consumption of junk food, sweets, and sugary beverages, inadequate intake of fruits and vegetables, meal skipping, and late-night eating. These habits can contribute to various health issues such as obesity, type 2 diabetes, heart disease, stroke, and certain forms of cancer. Educating children about healthy eating habits and fostering an environment that encourages wholesome choices are imperative. Parents, teachers, and policymakers all play a crucial role in preventing childhood obesity.

A study published in the Journal of Family Medicine and Primary Care in 2022 investigated the occurrence of detrimental eating behaviors among school-aged children in India. The study involved surveying more than 1,000 school-going children and found that over 50% of them had unhealthy

dietary habits, such as consuming too much junk food, not consuming enough fruits and vegetables, and skipping meals. These dietary habits can result in health risks like obesity, type 2 diabetes, and heart disease. Educating children on healthy eating habits and promoting healthy food choices is crucial. Parents, teachers, and policymakers all have a responsibility to prevent childhood obesity. Promoting healthy eating habits among school-going children can be achieved by educating them about the importance of a balanced diet, providing healthy food at affordable prices, limiting the intake of junk food and sugary drinks, encouraging breakfast consumption, and ensuring sufficient physical activity. Through collaborative efforts, we can prevent childhood obesity and improve the health of children. ⁽⁹⁾

Unhealthy nutrition among children in India can lead to a range of lifestyle, chronic diseases, and diabetes problems. These issues have been extensively researched and documented by various studies and statistics. Some of the key problems are:

Obesity: In India, unhealthy eating practises are a key contributor to childhood obesity. According to research appearing in the Indian Journal of Endocrinology and Metabolism, the frequency of childhood obesity in India rose from 16.3% in 2001 to 19.3% in 2015. Chronic disorders, including diabetes, heart disease, and high blood pressure can develop as a result of obesity, which is a dangerous health condition. ⁽¹⁰⁾

Prediabetes/ Type 2 Diabetes: A study published in the BMC Endocrine Disorders, 2021 it was revealed that unhealthy eating habits pose a significant risk for the development of type 2 diabetes in Indian children. The study demonstrated that 12.3% of boys and 8.4% of girls were affected by pre-diabetes or diabetes. The research further revealed that being overweight, having more subcutaneous fat, doing less physical activity, consuming junk food, and using alcohol or drugs increased the risk of having pre-diabetes or diabetes. Pre-diabetes and diabetes were more prevalent among lower-class and rural teenagers, particularly girls. The authors suggested that early diagnosis and proper care could help prevent these conditions from getting worse. ⁽¹¹⁾

Cardiovascular disease: A study published in the Journal of Family Medicine and Primary Care in 2020 investigated the link between dietary patterns and risk factors for cardiovascular disease (CVD) among adolescents in North India. The findings indicated that high consumption of fried foods, sweets, and carbonated beverages was linked to a higher frequency of CVD risk factors like high blood pressure, high cholesterol, and obesity.

The authors of the study proposed that that promoting healthier dietary patterns among adolescents could be an effective strategy to prevent CVD.⁽¹²⁾

To summarize, unhealthy nutrition among children in India can give rise to various health issues such as obesity, type 2 diabetes, cardiovascular disease, and dental cavities. These subjects are well documented by research studies and statistics and require urgent attention to ensure a healthy future for India's children.

Social Enterprises in Promoting Healthy Eating Habits

Social enterprises have a crucial part to play in advancing healthy eating behaviors and a healthy lifestyle by ensuring access to a variety of affordable and nutrient-dense food options, raising public awareness of these habits, educating the public about them, and fostering an environment that supports healthy choices. Social enterprises can also address the barriers to healthy eating, such as limited availability and accessibility of healthy foods, by establishing food distribution networks and partnering with local farmers to promote locally sourced produce.

Case studies have shown that social enterprises can effectively promote healthy eating habits. For example, in Mumbai, a social enterprise named Swasth Foundation has implemented a program to provide nutritious meals to school children. The program offers a balanced and nutritious meal that includes fruits, vegetables, and whole grains, which has led to an increase in children's nutrient intake and a decrease in the consumption of unhealthy snacks.⁽¹³⁾

Another example is the social enterprise "Mitti Cafe," which promotes healthy eating habits by providing affordable and nutritious meals made from locally sourced ingredients. The enterprise also offers nutrition education programs and cooking workshops to create awareness about healthy food choices.⁽¹⁴⁾

Research Methodology

Research Approach: The research method employed in the study was qualitative, which entails gathering and studying non-numerical material, including written material, audio, and video recordings. The researchers systematically collected and recorded the contents of various programs run by social enterprises. They also mapped policies, strategies, regulations, guidelines, and reports from relevant ministries and stakeholders.

Exploratory and Descriptive Research Design: The study is characterized as exploratory and descriptive as investigates the existence of

programmes that advocate for and provide assistance for diabetic children as well as the operations of multiple social enterprises in India. Furthermore, it outlines the efforts undertaken by these social enterprises to educate and inform stakeholders about recognizing early signs of diabetes in overweight children. They also provide guidance on implementing suitable therapeutic and medical interventions to facilitate the restoration of normalcy and expedite the recovery process, ultimately leading to an improved quality of life for children with diabetes. The social enterprise's initiatives also encompass providing guidance to diabetic children and their parents on adhering to take their medications, modify their lifestyle and nutrition, and exercise to maintain their health over the long term.

Sample Design: The study considered relevant case studies of management of diabetes and awareness programs among children and their parents run by social enterprises. The study has selected a sample of social enterprises that are actively involved in diabetes care and awareness programs. The study has collected the data from these social enterprises through interviews, focus groups, and document analysis.

Data Collection: The study used a narrative review approach to collect data. This involved systematically reviewing and analyzing literature, journals, cases, news articles, and websites related to social enterprises working with diabetic children. The researchers identified prominent themes and patterns within the data, utilizing these discoveries to enhance their comprehension of how social enterprises can effectively tackle the challenges associated with diabetes in children.

Period of Study: The study was conducted from 1st February to March 2023. The researchers collected data from a variety of sources, including literature, journals, cases, news articles, and websites. The researchers spread their data collection across the months of February and March to ensure that they had a comprehensive understanding of the topic.

Observations and Analysis of Cases

According to a report published by Abbott in 2022, the most prevalent types of diabetes among young individuals in India are Type 1 and Type 2 diabetes, both accounting for approximately 40-45 percent of cases. Notably, the onset of Type 2 diabetes occurs almost two decades earlier in Indians compared to Western populations. The report highlights that Type 2 diabetes affects 8-10 percent of the Indian population, while an additional 15 percent have pre-diabetes. ⁽¹⁵⁾

The study also revealed that diabetes is becoming more common in India, especially among young people. This is a result of several different factors, like:

- There has been an upward trend in obesity and overweight, which significantly increases the risk of Type 2 diabetes. The percentage of obese people in India has climbed from 11.9% in 2005 to 24.1% in 2017.
- A decline in physical activity. Physical activity helps to control weight and reduce the risk of diabetes. The percentage of obese people in India has climbed from 11.9% in 2005 to 24.1% in 2017.
- A change in diet. The Indian diet is becoming more processed and sugared, which is increasing the risk of diabetes.

The report highlights the need for early detection and treatment of diabetes in India. Diabetes consequences include heart disease, stroke, blindness, and kidney damage can be avoided with early detection and treatment.⁵

According to the Naryana Health report of 2019, the occurrence of overweight and obesity among children in India stands at 15%, equating to approximately 14.4 million children who are classified as obese.⁶

According to the World Obesity Atlas 2022, India is projected to have approximately 10.81% of children aged 5 to 9 years and around 6.23% of teenagers aged 10 to 19 years who are obese by the year 2030.⁷

A number of chronic health disorders, including type 2 diabetes, heart disease, and stroke, can be brought on by obesity, which is a severe health issue. Recognizing and addressing the factors that contribute to obesity in children, including unhealthy eating habits, insufficient physical activity, and genetic predisposition, is crucial.

Numerous studies indicate that social entrepreneurs primarily concentrate on clinic-based approaches for managing diabetes among children. The intervention components offered by social entrepreneurs encompass dietary management and addressing psychological aspects such as building confidence and motivation in effectively managing diabetes.

Observations from selected social entrepreneurs working towards creating health education awareness among children and adolescents for proper nutrition, and prevention of obesity, lifestyle chronic diseases and child diabetes in India:

1. **The Health Awareness Centre:** The Health Awareness Centre is a social enterprise that works to promote healthy living and eating habits among

urban communities in Mumbai. The organization provides nutrition education to schools, colleges, and corporates through workshops, seminars, and counseling sessions. They also offer a range of healthy snacks and beverages that are free from preservatives and artificial flavors.

2. **The Akshaya Patra Foundation:** The Akshaya Patra Foundation is a nonprofit that provides schoolchildren in India's urban and rural areas with daily meals. The organization serves nutritious and healthy meals that meet the dietary requirements of children. They also provide nutrition education to students to promote healthy eating habits.
3. **HealthSetGo:** This organization provides health education and awareness programs to school children in India. They run a program called 'HealthSetGo School Health Program,' which focuses on promoting healthy eating habits and preventing childhood obesity.
4. **Eat Right India:** In 2018, the Food Safety and Standards Authority of India (FSSAI) and the Government of India launched the Eat Right India campaign, aimed at revolutionizing nation's food system and ensuring that all Indians have access to safe, wholesome, and sustainable food. In order to achieve its objectives, the movement uses a variety of techniques, including empowerment, collaboration, capacity building, and regulation. The movement is built upon the slogan "Sahi Bhojan. Behtar Jeevan." They run various campaigns and programs to raise awareness about healthy eating and nutrition.
5. The **Naandi Foundation** is an Indian non-profit organization with a mission to enhance the health and overall welfare of individuals. They offer several programs focused on nutrition, such as a school feeding program that provides healthy meals to underprivileged children, a nutrition education program that teaches children about healthy eating habits, and a community kitchen program that provides affordable, nutritious meals to people in need.

Table-3: Social Entrepreneurs Are Fighting Obesity and Diabetes in Children

S. No	Social Enterprises	Approaches
1	The Health Awareness Centre	<p>The Health Awareness Centre (THAC) in Mumbai, India, takes a holistic approach to health education and awareness.</p> <ul style="list-style-type: none"> • Providing health education and awareness programs to children, adolescents, and parents. • Offering nutritional counselling and support for healthy eating habits. • Conducting research and developing resources to improve health outcomes.

<p>2</p>	<p>The Akshaya Patra Foundation</p>	<p>The Akshaya Patra Foundation is a non-profit organization in India dedicated to the primary objective of supplying mid-day meals to school children.</p> <p>Their approach involves:</p> <ul style="list-style-type: none"> • Providing nutritious meals: The Foundation makes ensuring that schoolchildren receive wholesome, sanitary, and delicious midday meals. They work closely with local communities, schools, and governments to provide these meals. • Promoting education: The Foundation believes that education and nutrition go hand in hand. They encourage children to attend school regularly by providing them with healthy meals. They also promote education by conducting various awareness programs and initiatives. • Sustainable practices: The Foundation is committed to promoting sustainable practices in the communities they serve. They use clean energy and eco-friendly practices in their kitchens and distribution centers. They additionally advocate for the utilization of locally procured ingredients, aiming to bolster local farmers and minimize their environmental impact.
<p>3</p>	<p>HealthSetGo</p>	<p>HealthSetGo is an Indian social enterprise that focuses on enhancing the health and wellbeing of school-aged children. Their approaches include providing health education, health screenings, and access to healthcare services. They have a technology-driven platform that allows schools to manage student health data and track their health status. HealthSetGo also works with school administrators, parents, and teachers to create a healthy school environment, including providing nutritious meals and promoting physical activity. Their reach is nationwide, and they have partnered with over 1,500 schools in India.</p>
<p>4</p>	<p>Eat Right India</p>	<p>EatRight India was introduced in 2018 by the Food Safety and Standards Authority of India (FSSAI) and Government of India, to make the country’s food system safer, healthier and more sustainable for all Indians. The movement uses different strategies such as regulation, capacity building, collaboration and empowerment to reach its objectives. The slogan ‘Sahi Bhojan. Behtar Jeevan’ encapsulates the core essence of this initiative. They conduct various activities and initiatives to educate people about nutritious and healthy eating habits.</p>
<p>5.</p>	<p>The Naandi Foundation</p>	<p>The Naandi Foundation is an India-based non-profit organization with the objective of enhancing the health and welfare of individuals within the nation. The foundation has several programs focused on nutrition, including a school feeding program that provides nutritious meals to underprivileged children, a nutrition education program that teaches children about healthy eating habits, and a community kitchen program that provides affordable, nutritious meals to people in need. The foundation also works with farmers to promote sustainable agriculture practices and improve the quality of food available. Overall, the Naandi Foundation’s approach focuses on addressing systemic issues related to nutrition and food access, while also educating and empowering individuals to make healthier choices.</p>

Sources: The authors made observations, conducted analysis, and gathered information from secondary sources and existing literature.

Discussion

In India, the frequency of diabetes among children and adolescents is rising. This can be attributed to unhealthy lifestyle habits, including inadequate dietary choices and insufficient engagement in physical activities. Studies have shown that clinic-based interventions are effective in managing diabetes in children, but they do not address the social and psychological issues that children with diabetes face. Social enterprises are playing an important role in addressing these issues by providing support and resources to children with diabetes and their families.

In addition to providing support and resources, social enterprises are also working to de-stigmatize diabetes and raise awareness about the disease. This holds significance as diabetes can have a serious negative impact on the development of children, both physically and mentally. Social businesses are assisting in the development of a more welcoming atmosphere for children with diabetes and their families by striving to de-stigmatize diabetes.

The research finds that social enterprises are playing a key role in promoting health education and awareness among children and adolescents in India. These organizations mainly focus on providing healthy meals, promoting physical activities, and educating children about healthy habits to prevent obesity and chronic diseases. Some of these social enterprises also work with schools to integrate health education into the curriculum and train teachers to facilitate the integration of children with diabetes. The study highlights the increasing burden of diabetes among Indian children and adolescents and emphasizes the need for more effective interventions that address the social integration of diabetic children. The research concludes that social enterprises have an important role to play in preventing and managing lifestyle diseases among children and adolescents in India.

The key pillars and focus areas of social enterprises working with children for creating awareness against unhealthy nutrition and its adverse effects on their health can include:

- Providing nutritious meals and snacks: Social enterprises can provide children with healthy and balanced meals and snacks that are high in nutrients and low in unhealthy fats, sugar, and salt.
- Promoting physical activities: Encouraging children to engage in regular physical activities like sports, exercise, and outdoor games can help prevent obesity and other lifestyle diseases.

- The significance of eating a balanced, diverse diet, the effects of making poor food choices on one’s health, and how to make healthier food choices are all topics that social entrepreneurs can cover with children.
- Incorporating health education into the curriculum: Social entrepreneurs can engage with schools to integrate health education into the curriculum and train teachers to make it easier for children with chronic illnesses like diabetes to integrate into the classroom.
- Fostering a supportive atmosphere for children with long-term medical conditions: Social enterprises can contribute to fostering a supportive environment for children with chronic health conditions by increasing awareness, minimizing stigma, and encouraging social inclusion.

Overall, social enterprises can play a critical role in promoting health education and awareness among children and adolescents in India, helping to prevent and manage lifestyle diseases like obesity and diabetes.

Research Findings

Objectives	Conclusion
<p>To evaluate the frequency of excessive weight and obesity among children who attend urban schools and the subsequent link to diabetes, as well as to pinpoint the factors that contribute to this condition.</p>	<p>Based on the National Health Survey 2019-21, there has been an upward trend in the proportion of children who are overweight, rising from 2.1% in NFHS-4 to 3.4% in NFHS-5.</p> <p>Research indicates that obesity among children is a significant contributing factor to the development of diabetes. As urbanization increases, so does the prevalence of obesity. This is due to a lack of physical activity and an unhealthy diet. As a result, there has been a dramatic increase in the number of children with diabetes.</p> <p>Here are some additional details about the relationship between obesity and diabetes among children:</p> <ul style="list-style-type: none"> • According to studies, diabetes risk is significantly increased in children who are obese. • As children with obesity grow older, they have an increased likelihood of developing type 2 diabetes. • Children who are obese and have additional susceptibility indicators for type 2 diabetes, such as a family history of the disease or a high-sugar diet, are at an even higher risk.
<p>To study the role of social enterprises in helping parents of children with diabetes manage their condition and educate them about food nutrition.</p>	<p>Social enterprises are essential for managing diabetes and teaching parents about children’s nutrition. In addition to promoting healthy lifestyles as protection against diabetes, they offer extensive programmes to foster a friendly school climate and the best treatment for children with diabetes. These initiatives increase access to quality healthcare services and healthcare awareness, encourage physical activity and healthy diets, and reduce the prevalence of diabetes.</p>

<p>To develop a set of recommendations for policies that can be implemented by government agencies and other stakeholders to improve the management of diabetes.</p>	<p>There is a need to develop and implement national and regional diabetes plans that promote partnerships between communities, stakeholders, and organizations dedicated to helping diabetic children. It is also important to strengthen the framing of diabetes as a societal problem that requires a multi-pronged approach.</p> <p>Here are some specific ways that this can be done:</p> <ul style="list-style-type: none"> • Develop national and regional diabetes plans. These plans should outline a comprehensive approach to preventing, diagnosing, and managing diabetes in children. They should include goals, objectives, and strategies for each of these areas. • Promote partnerships between communities, stakeholders, and organizations. These partnerships can help to develop and implement effective diabetes prevention and management programs. They can also help to raise awareness about diabetes and its impact on children. • Strengthen the framing of diabetes as a societal problem. This means educating the public about diabetes, its causes, and its impact on children. It also means advocating for policies that support diabetes prevention and management. <p>By implementing these measures, we can contribute to a decrease in the prevalence of diabetes among children and enhance the overall well-being of those who are living with the condition.</p>
<p>To determine the extent to which technology may be used to improve the lifestyle and health-seeking behaviour of many children who have diabetes.</p>	<p>There is a critical need to improve access to electronic health (eHealth) devices for people with diabetes to manage their condition.</p> <p>E-health tools can support persons with diabetes in tracking their blood sugar levels, keeping tabs on their diet and activity, and corresponding with their healthcare providers. These devices can be a valuable tool for people with diabetes to manage their condition and improve their quality of life.</p> <p>However, there are a variety of factors, such as price, insurance coverage, and lack of knowledge, that can limit access to eHealth devices. It is important to improve access to eHealth devices so that people with diabetes can benefit from these valuable tools.</p>

Managerial Implications

This study sheds light on how diabetes is influenced by healthy behaviors, such as following a proper diet with healthy food choices, appropriate portion sizes, and balanced composition that promotes optimal blood glucose control and maintaining a healthy weight, as well as regularly engaging in physical activity.

Previous school-based initiatives in India tried to inform people about the advantages of exercise and a good diet for preventing diabetes and

other chronic diseases. Social entrepreneurs have developed comprehensive programs that create a supportive school environment for school staff, parents and children. These programs help children with type 1 diabetes to manage their condition better and also prevent type 2 diabetes by encouraging healthy lifestyles.

Social entrepreneurs play a vital role in educating diabetic children and their families about the condition. They can help to raise awareness about the importance of lifestyle change and weight loss, and they can provide resources and support to help families manage their condition.

Policy Recommendation

There is a need for a two-pronged approach to address the needs of diabetic children. The first prong is to bring quality healthcare services to their doorsteps. This can be done by expanding access to primary care, providing transportation to and from appointments, and making sure that medications are affordable. The second strategy is to increase the healthcare knowledge by enticing children to get involved in physical activity and consume a balanced diet. This can be done by providing access to parks and recreation facilities, offering sports programs, and teaching children about the importance of healthy eating.

There is need for developing an information system on a national/state level for developing a database integrated in the Health monitoring Information system (HMIS) for lifestyle related diseases and diabetic trends affected children who can be monitored and guided to help them grow into more healthy human beings leading to their lesser stress, better academic performance, more productive and efficient work lives. This will help in making the young force of our country to contribute more effectively to the Gross Domestic Product (GDP) of our country. Therefore, there is need for new application programmes based on digital and artificial intelligence (AI) technologies, which are specifically dedicated to the children affected with chronic diseases including diabetic trends and their parents, like mobile app and AI; they will help in collecting data periodically and tracking pre-diabetes and its trends, food habits, nutritional content and physical lifestyle diseases since early stage to adulthood in all parts of the country over the internet. These applications can be also used to predict the possible lifestyle behaviours changes and send periodic guidelines, counselling messages and other educational updates on above subjects. Thus, with the help of digital technology/mobile apps and artificial intelligence we can collect data of the respondents. It will help in analysing, predicting and understanding

the diabetic lifestyle behaviour and its prevention management through adherence and following guidelines; it will send and help to implement the guideline messages to the affected children with the help of their parents. The government and social enterprises should organise more frequently educational and diagnostic camps for more detailed lifestyle diseases related health check-ups including pre-diabetic conditions, which will help children in understanding benefits of daily exercise & yoga and intake of good food practices. We need to address these sensitive health condition issues of the children and adolescents at a tender age as a public health issue and thus prevent a wider population health damage in future times in an attempt to attain a better sustainable development goal (SDG) of a more effective universal health coverage (UHC) on health issues as per WHO and UNICEF.

Conclusion

A range of policy strategies can help governments prevent diabetes in children throughout their lives. The findings of the research underscore the benefits of evidence-based strategies and programs run by social entrepreneurs, which can help provide preventive services and effective communication to diabetic children and their families. In addition, digitization has great potential to reach out to children living with diabetes automatically. However, existing digital strategies are not sufficient to reach diabetic children in need of urgent medical attention. There is also a need for government policies to restrict marketing of unhealthy products that are strategically targeted at children. Maintaining a healthy weight, increasing exercise, and adhering to a balanced diet are all effective ways to prevent diabetes. To assist diabetic children in making healthy decisions and altering their behaviour, families, schools, healthcare professionals, communities, the media, the food sector, and the government should all collaborate.

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Psychology of Colors: A Review Study

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Abstract

The use of colors has been an integral part of human culture and communication for centuries. In recent years, there has been growing interest in the psychological effects of colors on the mind, particularly in the fields of marketing, design, and psychology. This paper explores the impact of colors on the mind, examining the ways in which colors can influence emotions, behavior, perception, and cognition. Drawing on existing research and theories, we discuss the psychological effects of different colors and their symbolic meanings across cultures. We also explore the potential applications of color psychology in various contexts, from branding and advertising to interior design and art therapy. Ultimately, we argue that understanding the effects of colors on the mind can help individuals and organizations make more informed decisions about the use of colors in their work and life, and enhance our appreciation of the powerful role that colors play in shaping our experiences and emotions.

Keywords: Colours, communication, emotions, perception, cognition

Introduction

Colours are evident in society's daily life and are meticulously arranged by designers when the goal is to draw attention (Sevinc Kurt, *The Effects of Color on the Moods of College Students*, 2014). Colors surround us in every aspect of our lives, influencing our emotions, perceptions, and behaviors in subtle and powerful ways (Spence, 2020). From the vibrant hues of a sunset

to the cool tones of a peaceful stream, colors have a profound impact on our psychological and physiological states (Kendra Cherry, 2023). The study of the psychology of colors delves into the intricate relationship between colors and the human mind, exploring how different hues can evoke specific feelings, thoughts, and responses (Ellinas13, 2023).

Throughout history, civilizations and cultures have recognized the profound significance of colors, attributing symbolic meanings and associations to different shades. In ancient Egypt, vibrant blues and greens were associated with life and fertility, while in medieval Europe, the color purple represented royalty and power (Boddy-Evans, 2019). Artists and designers have long harnessed the emotional and symbolic power of colors to create visually captivating works that engage the viewer's senses and elicit a desired response. (Myers, 2023)

In recent years, the field of psychology has turned its attention to understanding the psychological effects of colors, leading to fascinating insights into how color influences human behavior, perception, and even physiological processes (Cherry, 2022). Studies have shown that colors can evoke specific emotional states: warm colors like red and orange tend to stimulate and energize, while cool colors like blue and green often create a sense of calmness and relaxation (Kendra Cherry, 2023).

Moreover, colors can influence our cognitive processes and decision-making. Research suggests that specific colors can enhance or impair our attention, memory, and creativity. (Mustafar, 2013) For example, the color red has been found to enhance attention to detail and increase performance on tasks requiring focus, while blue has been associated with enhanced creativity and cognitive flexibility.

The psychology of colors also extends to the realm of marketing and branding (Ciotti, 2020). Businesses and advertisers strategically employ colors to shape consumer perceptions and influence purchasing decisions (Bytyci, 2020). For instance, fast-food chains often use red and yellow in their logos and signage to stimulate appetite and create a sense of urgency, while luxury brands frequently utilize black and gold to convey sophistication and exclusivity (Urie, 2018).

Understanding the psychology of colors can empower us to make informed choices in our personal and professional lives (R, 2021). Whether we are designing a website, decorating our homes, or selecting an outfit, a deeper understanding of how colors impact our thoughts and feelings can help us create environments and experiences that align with our desired outcomes (Team 9. D., n.d.).

In this exploration of the psychology of colors, we will delve into the various ways colors influence our psychology, examining the emotional, cognitive, and behavioral effects of different hues (Kendra Cherry, 2023). By unraveling the mysteries behind the power of colors, we can unlock new possibilities for self-expression, communication, and overall well-being (Team 9. D., n.d.). So, let us embark on this colorful journey and unravel the fascinating interplay between colors and the human mind.

Methodology

The use of a strong methodology is essential for validating any scientific research, and the methodology used manages to trace paths to reach the objectives and outcomes that the researcher seeks. The current study is classified as a systematic literature review, which is defined as a larger scientific investigation with the primary goal of surveying, gathering, and critically evaluating the methodological process used in the research and synthesizing its results (Angela Carrera-Rivera, 2022). This form of study has various advantages since systematic reviews include a broader range of noteworthy results for research rather than drawing conclusions based just on the reading of a few papers. (Sampaio& Mancini, 2006). According to (Gil, 2008) this article is categorized as descriptive research because its main focus is the description of the particularities and characteristics present in a specific society or phenomenon. As a result, exposing how the psychological factor of colors has been acting in scientific studies over time. Revealing how the psychological aspect of colour has been used in scientific studies across time. Its methodology combines quantitative and qualitative research because it conducts a virtual review of scientific papers before analyzing these investigations. The process of the study was carried out in different phases. The first step involved choosing which computerized databases would be the subject of the investigation, and the second involved selecting keywords. In the third, a thorough search of the studies was done, and then the titles, abstracts, and keywords were examined. Finally, there was a parallel reading to the rejection of whole texts that were unrelated to the subject of the research. The fifth dealt with the elimination of studies that did not adhere to the suggested specificities.

Categories of Colors

Color theory states that different colors have diverse meanings based on culture and context of use. Furthermore, additional elements such as

the individual's space and age may alter color perception. People can see approximately 7 million colors, yet these are all built from the same basic building blocks.

The primary colors red, blue and yellow form the basis for all other hues and cannot be created by combining other colors (Williams S. , 2017). If you mix these colors in equal proportions, the resulting color will be black.

Secondary colors are the colors produced by combining two primary colors. This group is composed of colors such as violet (red + blue), lime (green + yellow), lavender (violet + blue), purple (violet + red), amber (orange + yellow), and turquoise (green + blue) (Williams S. , 2017).

Tertiary colors are created by mixing primary and secondary colors. There are six tertiary colors. Lime, lavender, saffron, purple, amber, turquoise (Williams S. , 2017).

Combining black or white with any of the above colors creates shades or tints, and tones represent the depth of color. Neutral tones are created by creating subtle shades from pale colors such as creams and beiges and balancing bold and bright colors (Team 9. D., n.d.). These colors can also be divided into warm and cool colors. Warm colors include more yellows and reds and are generally considered cheerful colors. Cool colors are rich in blue components such as violet and green, and are generally thought to have a calming effect. (Eckstut., 2013)

Warm Colors

Warm colors, in the psychology of colors, evoke feelings of energy, passion, and warmth. These hues include shades of red, orange, and yellow, which are associated with fire, sunlight, and the changing leaves of autumn hues (Kendra Cherry, 2023). Warm colors tend to create a sense of excitement and stimulation, making them perfect for promoting action and attracting attention. They are often perceived as friendly, inviting, and engaging, evoking emotions such as happiness, enthusiasm, and optimism (Burst, 2021). Warm colors have been used in various contexts to create a sense of coziness, intimacy, and comfort, making them popular choices for home interiors, restaurants, and social spaces. (Ana Torres, 2020) They can also stimulate appetite and encourage social interaction, making them suitable for dining areas. Overall, warm colors have a profound impact on our emotions, enhancing our mood and creating a positive, energetic atmosphere (Kendra Cherry, 2023).

Table 1

	Warm Colors
Colors	Red orange yellow
Symbolism	Heat, light, motion
Emotion	Passion, coziness, playfulness
Utility	Make a space cozier

Source: <https://www.color-meanings.com/warm-colors/>

Cool Colors

Cool colors, in the realm of color psychology, are known for their calming and soothing effects on the human mind and emotions (Kendra Cherry, 2023). Comprising shades such as blue, green, and purple, these colors evoke a sense of tranquility, relaxation, and introspection (Lawson, 2023). Blue, with its association to the vastness of the sky and the serenity of water, instills a feeling of peace and stability. Green, reminiscent of lush foliage and nature's abundance, symbolizes growth, harmony, and rejuvenation. Purple, often associated with spirituality and mystery, encourages introspection, creativity, and a sense of luxury (Wang Haiying, 2018). Cool colors have the power to lower heart rate, reduce stress, and create a serene atmosphere, making them a popular choice for spaces meant for relaxation, such as bedrooms, spas, and meditation rooms (Writer, Color Your World to Relieve Stress, 2018).

Table 2

	Cool Colors
Colors	Blue, Purple, Green
Symbolism	Water, Darkness, Stillness
Emotion	Soothing, Calmness
Utility	Expand a space

Source: <https://www.color-meanings.com/warm-colors/>

Colors Psychological Effects

Colors have a profound impact on our psychology, evoking a wide range of emotions and influencing our thoughts and behaviors (Kendra Cherry, 2023). Each color carries its own psychological significance, creating unique and distinct experiences. Red, for instance, is associated with passion and excitement, but it can also elicit feelings of anger or intensity. Blue is often

linked to calmness and serenity, promoting relaxation and tranquility. Red, for instance, is associated with passion and excitement, but it can also elicit feelings of anger or intensity. Blue is often linked to calmness and serenity, promoting relaxation and tranquility. Green is connected to nature and can enhance feelings of harmony and balance. Yellow exudes energy and optimism, while purple signifies creativity and spirituality (Institute, 2020). Colors can affect our mood, perception, and even physical reactions (Kendra Cherry, 2023). Understanding the psychological effects of colors allows us to harness their power to create specific atmospheres, evoke desired emotions, and enhance our overall well-being (Kendra Cherry, 2023).

1. Color Red

The color red is a powerful and dynamic color that has significant psychological effects. Here are some features of red with respect to the psychology of colors:

- **Energy and Excitement:** Red is an extremely energetic color that can stimulate and excite our senses. It has a high visual impact and can grab attention quickly. Red is often associated with strong emotions, such as passion, love, and anger. (Color Psychology: How Do Colors Affect Mood & Emotions?, 2020)
- **Physical Stimulation:** Red has been shown to increase heart rate, blood pressure, and respiration. It can create a sense of urgency and increase adrenaline levels. This physiological response is why red is often used in warning signs or emergency signals (Daniel Murrell, 2018).
- **Attention-Grabbing:** Red is considered the most visible color, especially when contrasted with other colors. It tends to stand out and draw attention, making it effective for attracting focus and creating a sense of importance or urgency (Kendra Cherry, 2023).
- **Symbolism and Meaning:** Red is often associated with powerful emotions and concepts. It can represent love, romance, and desire. It can also symbolize strength, courage, and power. In some cultures, red is associated with luck and prosperity (Scott Dutfield, 2022).
- **Increased Appetite:** Red has been known to stimulate appetite and is frequently used in the design of food-related businesses like restaurants or food packaging. It can create a sense of hunger and encourage impulsive behavior (Connolly, 2018).
- **Importance and Urgency:** Red is commonly used to signify importance and urgency. It is often used for stop signs, fire alarms,

and warning labels. In marketing, red is used to create a sense of urgency, encouraging consumers to take immediate action (Wilkinson, 2018).

- **Confidence and Assertiveness:** Red is a bold and assertive color that can evoke feelings of confidence and power. Wearing red clothing or using red in branding can help create a strong and memorable impression (Minor, 2020).
- **Aggression and Anger:** Red can also be associated with aggression and anger. It is the color of blood and fire, both of which can symbolize intense emotions. In certain contexts, red can evoke feelings of aggression or danger (Susana Martinez-Conde, 2014).
- **Increased Attention and Memory:** Research suggests that red can improve attention to detail and enhance memory retrieval. It may help in situations that require focus and concentration (Columbia, 2009).
- **Cultural Variations:** It's important to note that the symbolism and meaning of colors, including red, can vary across different cultures. For example, in some Eastern cultures, red is associated with luck and celebration, while in others, it may symbolize mourning or danger (Girard, 2019).

These features of red make it a versatile and impactful color that can evoke a wide range of emotions and psychological responses (Chapman, 2021).

2. Color Blue

Blue is a versatile and impactful color that holds significant meaning in the psychology of colors. Here are some key features associated with the color blue:

- **Calming and Soothing:** Blue is often regarded as a calming color that promotes feelings of tranquility, peace, and relaxation. It has a soothing effect on the mind and body, helping to reduce stress and anxiety (Writer, 2018).
- **Serenity and Stability:** Blue is often associated with serenity and stability. It conveys a sense of trust, reliability, and dependability. This makes it a popular choice in industries such as finance and technology, where trust and stability are crucial (Williams, 2007).
- **Communication and Trust:** Blue is also linked to effective communication. It is often perceived as a trustworthy and dependable

color, instilling a sense of confidence and reliability. Many corporate logos and communication materials incorporate blue to enhance trust and credibility (Williams, 2007).

- **Intelligence and Logic:** Blue is often associated with intelligence and logical thinking. It is seen as a color that stimulates the mind, enhances mental clarity, and promotes focus. Blue-colored environments are believed to improve cognitive performance and concentration (Tiansheng Xia, 2016).
- **Openness and Productivity:** Blue is considered an open and expansive color. It is often associated with expansiveness, openness, and productivity. Blue can create a sense of space, making it suitable for workspaces or areas where creative thinking and productivity are desired (Williams, 2007).
- **Stability and Dependability:** Blue is often associated with stability and dependability. It conveys a sense of trust and reliability, making it a popular choice in various industries such as finance, technology, and healthcare (Writer, 2018)..
- **Emotions and Spirituality:** Blue is linked to emotions and spirituality. It can evoke feelings of introspection, deep thinking, and spiritual awareness. In some cultures, blue is associated with loyalty and faithfulness (Writer, 2018)..
- **Cooling and Refreshing:** Blue is often associated with coolness and refreshment. It is reminiscent of water and the sky, creating a sense of coolness and freshness. This is why blue is commonly used in products related to water, beverages, and personal care (Williams, 2007).

It's important to note that the psychological effects of colors can vary based on cultural, personal, and contextual factors (Cherry, *The Color Blue: Meaning and Color Psychology*, 2022). While blue generally carries these features, individual experiences and perceptions may differ.

3. Color Yellow

The color yellow is often associated with various psychological and emotional responses. Here are some features of the color yellow in relation to the psychology of colors:

- **Warmth and Happiness:** Yellow is commonly associated with feelings of warmth, joy, and happiness. It is known to evoke positive

emotions and is often linked to sunshine and bright, cheerful environments (Kendra Cherry, 2023).

- **Optimism and Positivity:** Yellow is considered an optimistic color that can uplift moods and promote a positive outlook. It is believed to stimulate mental activity, enhance creativity, and foster a sense of enthusiasm and confidence (Kendra Cherry, 2023)..
- **Energy and Attention:** Yellow is a highly noticeable color that can draw attention quickly. It has a stimulating effect on the mind and is often used to capture attention, whether in advertising, signs, or cautionary symbols (Kendra Cherry, 2023).
- **Communication and Clarity:** Yellow is associated with effective communication and mental clarity. It is believed to stimulate the thought process, enhance focus, and promote clear thinking. Yellow can also encourage conversation and facilitate better understanding (Whittle, 2014).
- **Warmth and Comfort:** Yellow has a warm and comforting quality. It can create a cozy and inviting atmosphere, making it a suitable color for spaces where relaxation and comfort are desired, such as bedrooms and living rooms (Mirabal, 2023).
- **Caution and Warning:** In some contexts, yellow can symbolize caution, warning, or potential danger. For example, yellow is commonly used for traffic signs, warning labels, and hazard indicators to alert individuals to proceed with care or be aware of potential risks (Rowe, 2022).
- **Balance and Energy Flow:** In color therapy and Feng Shui, yellow is associated with the solar plexus chakra, which represents personal power, self-esteem, and vitality. It is believed that incorporating yellow into living spaces or surroundings can promote balance, boost energy levels, and encourage a harmonious flow of positive energy (Tracy, 2021).
- **Mental Stimulation and Memory:** Yellow is thought to have a stimulating effect on the brain and memory. It can promote mental agility, improve concentration, and aid in memory retention. Yellow is sometimes recommended for study areas or workspaces to enhance focus and productivity (Walton, 2015).
- **Youthfulness and Freshness:** Yellow is often associated with youthfulness, energy, and a sense of freshness. It can evoke a

feeling of vibrancy and playfulness, making it suitable for designs targeting younger audiences or products related to youth culture (Mark, 2017).

Remember that individual responses to color can differ, and the psychological impact of yellow can vary depending on personal associations and context (Sevinc Kurt, 2014).

4. Color Orange

The color orange is a vibrant and energetic hue that holds various psychological associations. When it comes to the psychology of colors, orange often evokes the following features:

- **Warmth and Excitement:** Orange is a warm color that radiates energy and enthusiasm. It can create a sense of excitement, enthusiasm, and optimism. It has the power to uplift moods and evoke positive emotions (Kendra Cherry, 2023).
- **Creativity and Inspiration:** Orange is often associated with creativity and inspiration. It can stimulate the mind and encourage innovative thinking. It is a color that can help enhance creativity and encourage new ideas (Kendra Cherry, 2023).
- **Sociability and Communication:** Orange is a social color that promotes interaction and communication. It is known to encourage extroversion and stimulate lively conversations. It can create a welcoming and friendly atmosphere, making people feel more sociable and approachable. (Martinuzzi, 2018)
- **Confidence and Self-expression:** Orange is a confident color that encourages self-expression. It is often associated with individuality and extroversion. It can help boost self-esteem and encourage individuals to be bold, adventurous, and outgoing (Rico, 2015).
- **Joy and Happiness:** Orange is a color that is often associated with joy and happiness.

It can bring about feelings of warmth, cheerfulness, and contentment. It is a color that can help uplift spirits and evoke a sense of overall well-being (Liwen Zhang, 2023).

While orange has many positive psychological associations, it's important to note that individual interpretations and cultural influences can also shape how people perceive and respond to this color. Additionally, the intensity and context in which orange is used can influence its psychological effects (Halkiopoulos, 2021).

5. Color Green

The color green has a variety of psychological effects and associations. Here are some features of green with respect to the psychology of colors:

- **Relaxation and Harmony:** Green is often associated with relaxation, calmness, and harmony. It has a soothing effect on the mind and body, promoting a sense of balance and tranquility (Kendra Cherry, 2023).
- **Renewal and Growth:** Green is the color of nature, symbolizing renewal, growth, and vitality. It is often associated with springtime and the rebirth of plants and foliage. Green can evoke feelings of freshness and rejuvenation (Staff, 2023).
- **Balance and Stability:** Green is considered a well-balanced color, combining the calmness of blue and the energy of yellow. It represents stability, grounding, and equilibrium, helping to create a sense of stability and reassurance (Team, 2017).
- **Healing and Restoration:** Green is often associated with healing and restoration. It is believed to have a calming effect on the nervous system and can help reduce anxiety and stress. Green environments, such as gardens or parks, are often seen as therapeutic spaces (Chowdhury, 2019).
- **Symbol of Hope and Optimism:** Green is often associated with hope, optimism, and new beginnings. It is seen as a positive color that represents the potential for growth and improvement. Green can uplift mood and provide a sense of hopefulness (Kendra Cherry, 2023).
- **Connection to Nature:** Green is strongly associated with the natural world. It is the color of plants, trees, and grass, and is often used to create a connection to nature in interior and exterior spaces. Being surrounded by greenery can have a calming and refreshing effect (Kendra Cherry, 2023).
- **Balance of the Heart and Mind:** Green is often seen as a color that balances the heart and mind. It is associated with the heart chakra in many spiritual traditions, symbolizing love, compassion, and harmony. Green can help foster emotional well-being and promote empathy (Anodea Judith, 2022).

6. Color Black

Black is a fascinating color that holds various psychological associations and impacts our perceptions and emotions in unique ways. Here are some features of black with respect to the psychology of colors:

- **Mystery and Intrigue:** Black has a mysterious and enigmatic quality that captures our attention. It represents the unknown and the hidden, evoking curiosity and intrigue. It has often been associated with secrecy, the occult, and the night (Watts, 2012).
- **Timelessness and Classicism:** Black is a timeless color that never goes out of style.

It is often used in design and fashion to create a sense of elegance, sophistication, and class. Black is considered a versatile color that can be paired with almost any other color, making it a staple in many wardrobes and design palettes. (Interiors, 2013).

- **Minimalism and Simplicity:** Black is often used in minimalist design and art due to its simplicity and clean aesthetic. It can create a sense of focus and eliminate distractions, allowing other elements to stand out. Black is often used as a background

7. Color White

White is a color that holds significant psychological meaning and is often associated with various emotions, perceptions, and symbolic representations. Here are some features of white color with respect to the psychology of colors:

- **Freshness and Revitalization:** White is also associated with freshness and revitalization. It is commonly used in advertising and packaging for products related to cleanliness, hygiene, and freshness, such as skincare, cosmetics, and household cleaning products (Mason, n.d.).
- **Neutrality and Balance:** White is considered a neutral color and is frequently used as a backdrop to enhance other colors or elements. It has a balancing effect, making it a popular choice in interior design to create a neutral and versatile canvas that allows other colors and elements to stand out (Kendra Cherry, 2023).
- **Visibility and Attention:** White has a high contrast with most other colors, making it highly visible and attention-grabbing. It is frequently used for signage, logos, and text to ensure legibility and visibility (Osborne, 2015).

It is important to note that the psychological associations with colors can vary across cultures and individual experiences. Different people may have different interpretations and emotional responses to the color white based on their cultural background, personal experiences, and context (Nooree Na, 2014)

Impact of Color on Forms and Spaces

Colors have a profound impact on the perception of form and spaces, transcending the mere visual experience. Each color possesses its own distinct energy and conveys emotions, setting the tone for the environment it inhabits. Warm colors like red and orange tend to advance and visually expand spaces, making them feel more intimate and inviting (Flanagan, 2019). On the other hand, cool colors such as blue and green recede and create a sense of depth, making spaces appear more spacious and serene. Additionally, colors have the power to shape our perception of form, influencing how we perceive objects and architectural elements within a space. They can enhance or diminish the prominence of certain forms, altering their visual weight and significance. Thus, the selection and application of colors play a pivotal role in manipulating the perception of form and shaping the overall spatial experience.

Colors and Visual Perceptions

Colors play a fundamental role in shaping our perceptions and understanding of appearances (Baingio Pinna, 2018). They possess the remarkable ability to evoke emotions, convey moods, and alter our visual experiences. From the vibrant hues of a blooming garden to the subtle shades of a cloudy sky, colors infuse life into our surroundings. They have the power to transform the mundane into the extraordinary, allowing us to appreciate the intricate beauty that exists in the world. Whether it's the warm tones of a sunset painting the horizon or the cool blues of a tranquil ocean, colors have the capacity to captivate our senses and leave lasting impressions. Our perception of appearances is intricately intertwined with the palette of colors that surrounds us, as they contribute to the richness and diversity of the visual tapestry, we encounter every day (Hannah, 2023).

Colors and Textures

Colors and textures play a vital role in shaping our perception and experience of the world around us. The rich tapestry of colors adds depth, vibrancy, and emotions to our surroundings, while textures add a tactile

dimension, inviting us to explore and engage with our environment (Sophia C. Steinhäusser, 2022). Colors have the power to evoke different moods and feelings, with warm hues like red and orange igniting passion and energy, while cool tones like blue and green evoke a sense of calm and tranquility (Kendra Cherry, 2023). Similarly, textures create a multisensory experience, whether it's the roughness of a tree bark, the smoothness of a polished stone, or the softness of a plush fabric. They provide a visual and tactile diversity that enriches our aesthetic appreciation and adds a unique touch to the spaces we inhabit. The interplay between colors and textures is a captivating dance that transforms our surroundings into vibrant and engaging works of art.

Colors and Lights

Colors and lights are inseparable elements that bring vibrancy and beauty to our surroundings. They have the power to evoke emotions, set moods, and create memorable experiences. Colors can be found everywhere, from the vivid hues of nature's landscapes to the intricate palettes of art (Finlay, 2007). They can be bold and striking or subtle and gentle, each conveying its unique message. When combined with lights, colors take on a whole new dimension. Lights enhance colors, highlighting their brilliance and adding depth to their presence (Lee, 2023). They create captivating contrasts and shadows, transforming ordinary spaces into enchanting realms. From the warm glow of a sunset to the dazzling display of city lights at night, the interplay between colors and lights is a captivating dance that enriches our lives and ignites our imagination.

Limitations and Suggestions for further Research

Firstly, exploring the cultural and contextual influences on color perception would provide valuable insights into the variations and similarities across different populations. Understanding how individuals from diverse backgrounds interpret colors can help develop more inclusive and culturally sensitive applications of color psychology in various fields, such as marketing, design, and therapy. Additionally, investigating the impact of color combinations and contrast on emotional responses and cognitive processes would expand our understanding of how colors interact and influence each other in complex ways. Further research can also delve into the physiological and neurological mechanisms underlying color perception and emotional responses to unravel the underlying processes at play. This could involve studying brain activity using neuroimaging techniques, such as functional

magnetic resonance imaging (fMRI), to identify specific regions or networks associated with color perception and emotional processing. Furthermore, exploring the potential therapeutic applications of color psychology, such as color-based interventions for mood disorders or color therapy for stress reduction, could provide evidence-based recommendations for clinical practice. Lastly, considering the role of individual differences, such as personality traits, cognitive styles, and personal experiences, in color perception and preferences can contribute to a more nuanced understanding of how colors impact individuals' thoughts, feelings, and behaviors. By addressing these research areas, we can enhance our comprehension of the psychology of colors and its practical implications, enabling us to make informed decisions in utilizing colors for various purposes.

Conclusion

In conclusion, the psychology of colors is a fascinating field that explores the profound impact colors have on our thoughts, emotions, and behaviors. The way we perceive and react to different colors is not purely subjective but is influenced by a combination of cultural, personal, and physiological factors. Understanding the psychology of colors can empower us to make intentional choices in various aspects of life, from designing spaces that promote certain moods to crafting impactful marketing campaigns. Whether it's the calming effect of blue, the energizing power of red, or the sense of balance evoked by green, colors have the ability to shape our experiences and create lasting impressions. By harnessing the psychological power of colors, we can unlock new avenues of self-expression, communication, and well-being in our everyday lives.

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Impact of Sustainable Development on Economic Growth: A Bibliometric Analysis and Its Implication

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Abstract

The current research paper is an attempt to find out the dynamics of sustainable development and how it effects the economic growth to provide overview and makes way for further research. We have used bibliometrix R package to examine 362 studies to identify research trends in sustainable development, economic growth their relation. We recognize the most cited authors in the area of sustainable development, publications, and research institutions and countries where maximum studies have been done we conclude our investigation by identifying new research avenues.

Keywords: *Sustainable development, economic growth, Bibliometric analysis*

Introduction

Sustainable development is the need of the hour and it is a catchphrase for both business and academia. It is not only a topic to be discussed by the environmentalist but it has found a place in university and school syllabi, corporate board rooms, and in the various government plans. Way back in 18th century, an essay written by Thomas Robert Malthus predicted that the world population will starve or will have a minimalistic level of subsistence because food production will not meet the growing population. (Ahmed & Wang, 2019; Ahmed, Zafar, Ali, & Danish, 2020; Omojolaibi & Nathaniel, 2020). In their studies have found unsustainable consumption and production patterns among the major reasons for environmental deterioration and climate change. It is not surprising n case of developing countries that unsustainable

development and consumption intend to gain rapid economic progress for the welfare of their population, even the developed countries are dealing with ecological deficits due to greater demands for resources against the fewer available resources (Ahmed, Zhang, & Cary, 2021).

Due to the mounting ecological pressure linked with increased demands for energy, food, water, and other resources, and waning biocapacity, many of these countries are undergoing ecological deficits. (Ewing et al., 2010) the most inclusive global political effort towards achieving sustainable development is the UN Agenda 2030 and its 17 Sustainable Development Goals (SDGs), adopted in 2015 (UN 2015).

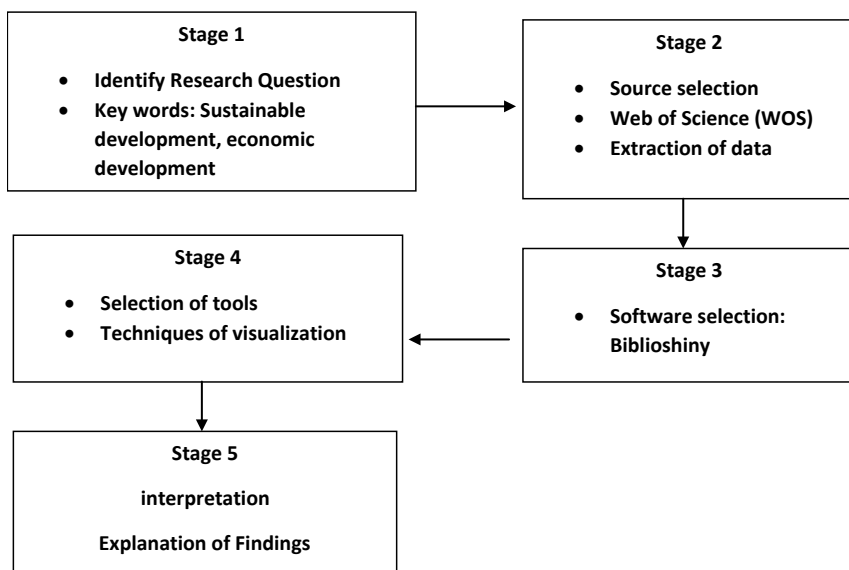


Fig 1: Five stages of bibliometric Analysis

Stage 1 (Research objective)

The current study attempts to provide systematic literature review of sustainable development and economic growth.

Our objective is to identify core institutions, countries, authors, and research publications using “biblioshiny” (“bibliometrix3.0”).

Furthermore, we aim to identify fundamental research themes through science mapping techniques of co-occurrence and co-citation analysis.

The application of these research tools will let us to perform a comprehensive analytical review and identify limitations in current literature.

Stage 2 (Source Selection)

For current research using bibliometric analysis method the publication of indexes in the Web of Science (WOS) online database core collection was considered. Despite the limitations of using a single database, WOS provided enough information for the purpose of the current research. Salvador-Oliván, J.A.; Agustín-Lacruz 2015 stated that WOS is a multidisciplinary database; it records scientific articles, reviews, and books, and also other documents editorials, or letters. Although there is a close correlation between several bibliometric indicators and the database. However WOS was considered the best option due to its quality, the possibility to search and filter search techniques, easy access to the full texts of the searched papers, and that it is why it is the most commonly used database, generating useful information for researchers we form the search query to select literature and apply various filters so that optimal results match our research objectives. The final query (“sustainable development” or “sustainable growth”, “economic development”). The final search outcomes consist of 362 research articles. We limit our search query to find only the English language articles to perform bibliometric analysis.

Bibliometric Analysis and Visualisation

Bibliometric analysis has become popular in business research in recent years (Donthu et al., 2020b, Donthu, Kumar, Pattnaik, & Lim, 2021, Khan et al., 2021). Scholars use bibliometric analysis for various reasons, such as to reveal the emerging trends in article and journal, collaboration patterns, and research constituents, country wise research and to explore the intellectual structure of a particular domain in the extant literature (Donthu et al., 2021a, Verma and Gustafsson, 2020, Donthu et al., 2020c). For our study we have used “biblioshiny” under the R package to conduct the bibliometric analysis.

Table: 1 provides descriptive analysis of the data used for the study. The duration of the selected data is of two decades spanning from 1991 to 2023. Major sources are books and journals and we have finalized 362 research articles authored by 1152 researchers where as 46 publications are single authored and it can be concluded that there is a high degree of research collaboration. Co- author per document is 3.35 which indicate that one author has collaborated for more than three papers. Fig 2 reflects that most of the study on sustainable development is done after 2017. Before this duration the research done on sustainable development is not significant.

Table 1

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	1991:2023
Sources (Journals, Books, etc)	147
Documents	362
Annual Growth Rate %	9.45
Document Average Age	4.54
Average citations per doc	26.43
References	22711
DOCUMENT CONTENTS	
Keywords Plus (ID)	882
Author's Keywords (DE)	1245
AUTHORS	
Authors	1152
Authors of single-authored docs	46
AUTHORS COLLABORATION	
Single-authored docs	46
Co-Authors per Doc	3.35
International co-authorships %	33.98

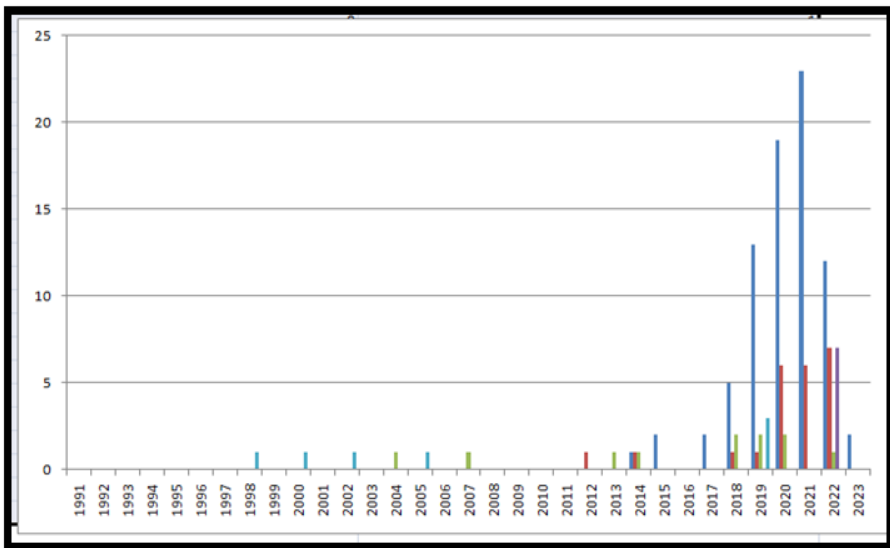


Fig 2

Further analysis was done on the themes, countries and key words. Fig: 3 represents the three fold analysis sustainable development, economic growth with the countries on the right, key words in the middle and research journals in the left side. The figure indicates that sustainability, environment, goals, growth, innovation are the main research direction with China, Spain United Kingdom and USA being the major contributors.

Tree Field Plot

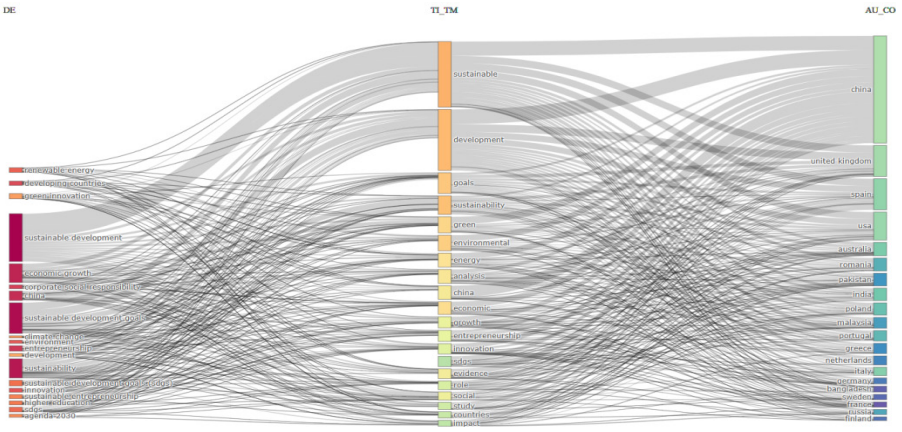


Fig: 3

Influential Aspects of Sustainable Development Research

Most Influential Journals

In order to analyse the impact of journals, Bradford law and source impact is used, the table:2 depicts 10 most influential journals based on the total publication, total citations and also h- index. Bornmann L, Daniel HD 2007 in their study mentioned that H index was widely considered as a factual and accurate parameter to quantify an individual’s scientific output. Global index (g- index) is also shown in the table to get a better measure of a set of articles’ global citation performance the ‘g-index’ was introduced by Leo Egghe in 2006 as an improvement over the h-index.

Table: 2

Element	h_index	g_index	m_index	TC	NP	PY_start
SUSTAINABILITY	19	31	1.900	1183	79	2014
JOURNAL OF CLEANER PRODUCTION	15	23	1.250	690	23	2012
SUSTAINABLE DEVELOPMENT	10	12		559	12	
INTERNATIONAL JOURNAL OF SUSTAINABLE DEVELOPMENT AND WORLD ECOLOGY	6	7	0.231	85	7	1998
BUSINESS STRATEGY AND THE ENVIRONMENT	5	8		192	8	
WORLD DEVELOPMENT	5	6	0.152	1163	6	1991
ENERGIES	4	6	1.000	39	6	2020
ENVIRONMENT DEVELOPMENT AND SUSTAINABILITY	4	6		44	7	
ENVIRONMENTAL SCIENCE AND POLLUTION RESEARCH	4	8		201	8	
INTERNATIONAL JOURNAL OF SUSTAINABILITY IN HIGHER EDUCATION	4	4	0.571	109	4	2017

Most Globally Cited Articles

Table: 3

Paper	Total Citations	TC per Year	Normalized TC
LELE SM, 1991, WORLD DEV	851	25.79	1.00
PURVIS B, 2019, SUSTAIN SCI	680	136.00	15.16
VALIANC S, 2011, GEOFORUM	417	32.08	2.46
GUPTA J, 2016, INT ENVIRON AGREEM-P	270	33.75	4.19
JOVANE F, 2008, CIRP ANN-MANUF TECHN	248	15.50	1.00
STAFFORD-SMITH M, 2017, SUSTAIN SCI	237	33.86	4.84
KHAN SAR, 2019, SUSTAIN DEV	196	39.20	4.37
KHAN SAR, 2017, ENVIRON SCI POLLUT R	180	25.71	3.67
GUPTA J, 2015, EUR J DEV RES	160	17.78	2.49
FONSECA LM, 2020, SUSTAINABILITY-BASEL	141	35.25	6.92

The first article which is most cited is by Lele SM (1991) the paper mentions about wide range of nongovernmental as well as governmental organizations have embraced it as the new paradigm of development. It also emphasis on all-encompassing nature of the concept gives it political strength, its current formulation by the mainstream of SD thinking contains significant weaknesses. This article had 851 citation. Second paper which had 680 citation is by Purvis B (2019) it talks of three pillar concept of suitability i.e. social economic and environmental. This paper reviews and discusses relevant historical sustainability literature and found that there is no single point of source of this three-pillar conception, but rather a continuous emergence from various critiques in the early academic literature of the economic status and to reconcile economic growth as a solution to ecological and social problems. Another paper by Gupta J (2016) which has 270 citation that that there is a risk that implementation processes focus more on social inclusiveness rather than on ecological and relational inclusiveness. it is critical that the latter two are given equal weight in the actual implementation process.

Trend Topics

Table: 4

item	freq	year_q1	year_med	year_q3
environment	8	2012	2016	2018
climate-change	14	2018	2018	2021
adaptation	5	2016	2018	2018
transition	5	2018	2018	2021
sustainable development	28	2016	2019	2022
indicators	18	2018	2019	2021
framework	17	2018	2019	2021
performance	42	2019	2020	2022
management	36	2017	2020	2021
governance	23	2019	2020	2021

If we analyze the table : 4 the keywords like performance, management, governance, climate change is more recent. Performance and governance is most frequently used. K.C. Roy & C.A. Tisdell mentions in their study that sustainable development requires good policies and effective provision of institutions conducive to good governance.

Corresponding Author's Countries

Table 5

Country	Articles	SCP	MCP	Freq	MCP_Ratio
CHINA	93	61	32	0.257	0.344
SPAIN	22	18	4	0.061	0.182
UNITED KINGDOM	22	13	9	0.061	0.409
USA	20	17	3	0.055	0.150
AUSTRALIA	11	4	7	0.030	0.636
INDIA	11	9	2	0.030	0.182
POLAND	11	7	4	0.030	0.364
ITALY	8	6	2	0.022	0.250
ROMANIA	8	8	0	0.022	0.000
RUSSIA	7	7	0	0.019	0.000

Table 5 represents top 10 corresponding countries it can be seen that most of the papers around 93 out of 362 is from china followed by Spain and United kingdom. It shows that these developed nations have more inclination for sustainable development. Sustainability, environment, goals, growth, innovation are the main research direction with China, Spain United Kingdom and USA being the major contributors.

Conclusion

This study investigated the bibliometric analysis of trends, trajectories, and prospects of sustainable development and economic development by the global community based on the Web of Science core database from 1991 to 2023 with 362 papers. as 46 publications are single authored and it can be concluded that there is a high degree of research collaboration.

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Role of Artificial Intelligence and Machine Learning in Organization's Design Thinking: A Systematic Literature Review

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Abstract

To what level is Artificial Intelligence (AI) likely to modify the pattern in which design thinking is done? Will AI affect design processes and the outcomes of design thinking actions? The aim of this article is to understand if the time of AI necessitates the prominence of design thinking as an emerging research theme and how design in AI influences organizational dynamics. This systematic literature review followed by a content analysis explains the changes in design thinking perspectives in the AI world where AI does not call into question the founding values of design thinking; but further, AI improves an organization's dynamic design model by pathing five primary themes: organisation's strategy, organisational conditions, organisational intervention, designerly thinking for managers, and organisation's designer. We raise interesting questions for future scholars to address and enhance the knowledge of the field.

Keywords: *AI, Artificial Intelligence, Design Thinking, Designerly Thinking, Systematic Literature Review*

Introduction

Artificial Intelligence (AI) is modifying the dynamics in which creativity transcends across time and arenas. In such a context, researchers confront various questions such as what are the implications for understanding and employing design in organizations (Verganti et al., 2020)? Is AI merely yet a new digitally driven technology (Dennehy et al., 2022) that may fundamentally challenge what organizations know about design? Or AI will call for a significant transformation in design (Dolle et al., 2022) that current theoretical perspectives cannot address? As an answer to this uncertainty, academics and practitioners have expressed interest in the practical applications and acceptance of Design Thinking, which is seen as a forward-thinking strategy that incorporates both thinking patterns and tools, resulting in effective industrial creativity and innovative thinking to move with the advancing technology. Numerous consulting firms, including IDEO, Malmo Living Labs, FabLabs, and others, have successfully implemented the design thinking concept to their audiences and promoted it around decision-making, process optimization, and new product development. Yet, studies exploring this arena are at a nascent stage and if left understudied it might obstruct the understanding of how AI is transforming organizational design thinking processes. Thus, to bridge this void in literature, the authors contribute to this emerging research trend by elaborating on these concerns, we first understand design thinking, its organizational setups and finally its evolving roles in AI driven settings (Katayama, 2018).

The remainder of this article is as follows: Methodology, Findings, Discussion, Implications, Conclusion and Future Scope and Limitations.

Methodology

A Systematic Literature Review (SLR) (Hulland & Houston, 2020) have been used in this study. SLRs involve the study of a focused niche in a research field (Carden et al., 2022; Snyder, 2019). In this regard, these are more appropriate for in-depth specialist study fields, hence Design Thinking is explored within the context of Organization in the Dynamic AI World using a SLR.

The keywords, criteria and databases were determined. Broad and direct search techniques (Behera et al., 2019; Tandon et al., 2021, 2022) were employed to present a catalogued and comprehensive review to insure sharp methodological precision (Kitchenham et al., 2009). The current study has been done using the Scopus database to get a broader understanding of

the area. Our selection of database is uniform with prior SLRs that have been attempted in the arenas of design such as (Bhandari, 2022) and AI (Chongwatpol, J, 2020). The search string used was: “design thinking” AND (“AI” OR “Artificial Intelligence”) AND “organization”. The search process generated 18 academic papers from 2014 to 2022. We thoroughly read and reviewed all full-text publications.

Findings

Publications Trend

Figure 1 displays design thinking and artificial intelligence research articles by year. The topic is novel, as the first traceable article was published in 2014 and has been increasing since, however the fall in 2022 is due to the incomplete dataset extraction process of the year 2022, furthermore complete year data of 2022 can be extracted to enhance the robustness of this research.

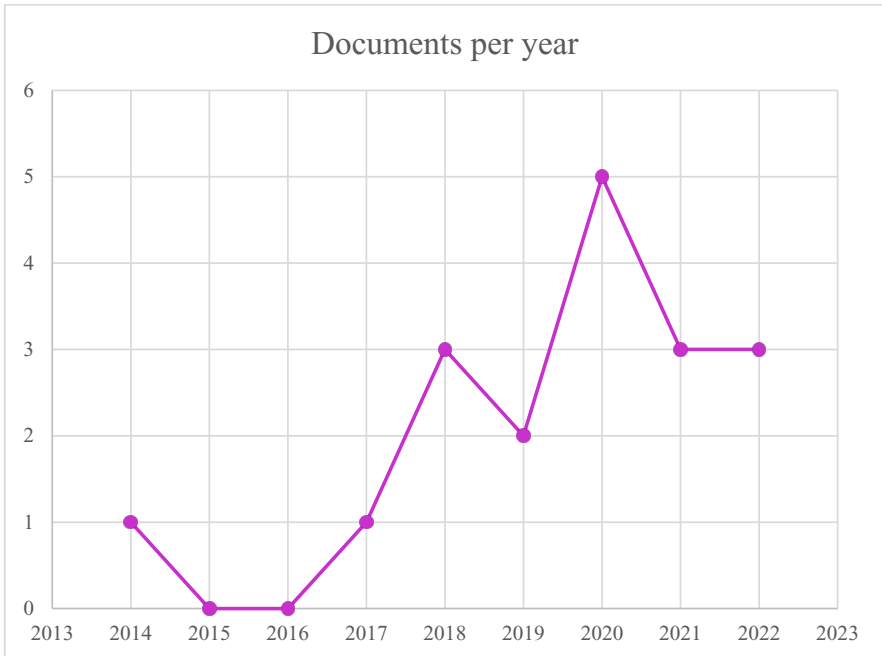


Figure 1: Publications Trend. Source: Scopus

Top Contributing Countries

The most impactful country based on the number of publications in the domain was United States with 4 documents. Subsequent productive

countries were Germany, Italy, and Sweden with a most publications (see Figure 2). Both developed and developing countries has started employing design thinking in their AI implementations, however, India is yet to explore this arena.

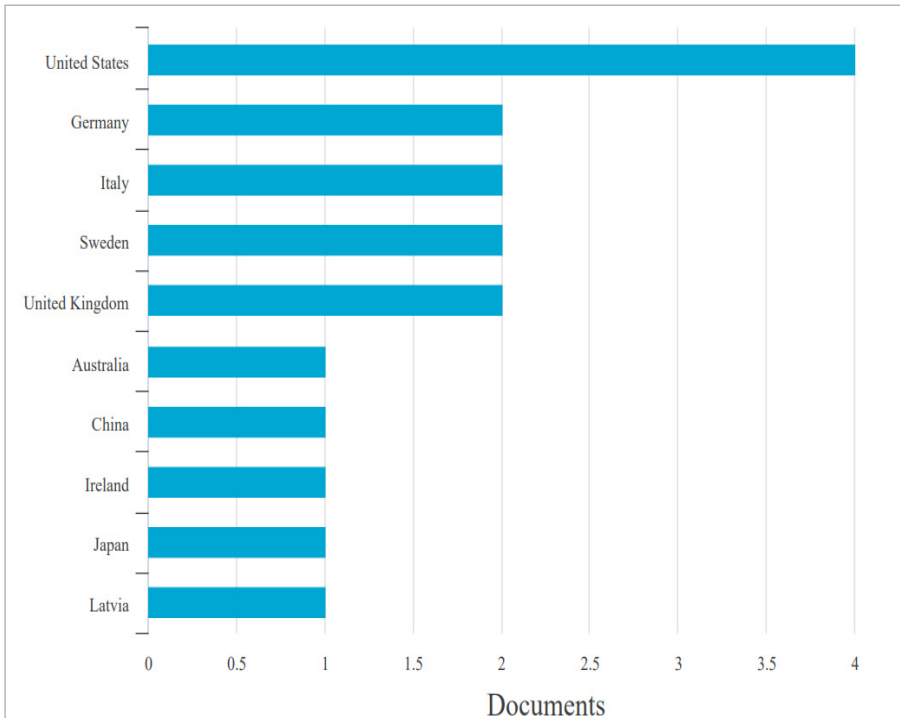


Figure 2: Top Contributing Countries. Source: Scopus

Content Analysis

To understand the relevance and construct of design in the AI world, the exploration of design as it is strategy must be analyzed. The following key themes were traced through detailed synthesis of literature and used to create the taxonomy of the field (see Figure 3):

Design Thinking and an Organization's Strategy

Design Thinking in the organisational context (Cooperrider, 2017) is unearthing as a crucial integration with strategy to solve for the Product-Market Fit, that is how an organization design's products that are relevant for the needs of their customers. To bridge this void between Design Thinking and Strategy to overcome the inevitable inefficiencies, complexities, uncertainties accompanied with emotional setbacks and flare-ups, the

literature recommends design as a gestating practice. Nevertheless, there are wicked challenges in the process of strategy. First, introducing new ways of thinking, the premise being that managers gain knowledge through observations and know-how tactics rather than standard and one-time workshop-based design tools. These designery interventions demand the changing of the cognitive mindset to empathize with customers and engage. Nonetheless, the mazes of resistance to change the lives of managers and customers are different and questionable because one does not wear the shoes of the other. Second, the new type of data increases cognitive load as executives must go beyond interpreting the visual and material design data but also triangulate in relation to traditional strategy tools. Interestingly a gap exists because such tools which blend strategy and design are missing.

Although, the cognitive side of Design Thinking, suggests that managers should develop intuitive and sense making capabilities that allow them to propose hypotheses about observed customer events and make precise decisions (Talamo et al., 2021) that improves organizational dynamic capabilities, yet the question of 'location and structure' is unaddressed around where Design Thinking; that being where and how should design be located, managed and outsourced in an organization, should design be cross functional, top management focus, product development domain etc. Thus, ultimately how Design Thinking shapes the flow and speed of activities over a long period of time, is another gap existing in literature. Howbeit, there is a need to highlight the value of thinking processes and patterns associated with design such as intuition, framing, abductive reasoning, analysis, sense-making and mind simulation through the use of impact driven idea generation with dynamic use of material in design rooms (Lin et al., 2014) for workshops, persona tracing, glass walls for the future of innovative strategic design (Knight, Daymond, & Paroutis, 2020).

Design Thinking and Organizational Conditions

Design Thinking behoves pro-active and efficacious leadership commitment and efforts (Snyder et al., 2018) for the path of success by leveraging empathy, freedom of divergence, strategizing ambiguity and rehearsing an innovative future. As there are prophesised challenges in the journey which begin with emotional toil, overwhelming conversations with customers, divergent thinking to expand ideas which is difficult for people who are used to quick, clear, and told ways of doing things as they fear failure. As a deduction, leveraging empathy (Pileggi, 2021) by setting aside preconceptions and collecting new insights of new style of data such

as video, photographs, audios, creating prototypes, testing designs, not just mere graphs, and tables. Ergo, the gap exists that leaders can't just start Design Thinking processes and leave but need to design for constant touch points for perennial implementation. Design Thinking is more than managing change, it is discovering what needs to be changed and how (Bason, 2019).

Design Thinking as an Organizational Intervention

Studies have suggested introducing a design catalyst. A catalyst as a designer who implements design thinking interventions to integrate design within organization. The role of design Catalyst is to intervene, design and facilitate design observations, insights, divergent meanings, and creative strategies for all facets of the organization. Nonetheless, there are conventional challenges again, for instance, the segregated approach to innovation (Lu et al., 2020), organizations are in shortage of people readily accessible and available to action design due to rigid structure and hierarchy with no structural, cultural, or external motivators for change, or Design Thinking limited to only product development therefore applied only in immediate and visible results orientation because, top management is engaged in limitation. The puzzling gap here is that these interventions give sugar-rush but one intervention, which is not enough, multiple series of interventions is needed to commit to imbricate design thinking and strategy (Wrigley, Nusem, & Straker, 2020).

Design Thinking for Manager's New Role

Although there is no one definition of Design thinking, and attempting to identify one would be an essentialist trap, it is usually characterized as a method of approaching ambiguous organizational challenges, a crucial skill for practical managers who are knowledgeable with cognitively based reasoning, and hence a component of management (Bhalla, 2019) and business education (Verganti, 2020). The idea of design thinking in business and management settings comprises elements: a set of clever practices, cognitive methods, and mindsets. However, the most intriguing explanation of design thinking was given as a cognitive and emotional activity performed out by designers while they are in the process of designing, which can be analysed through design cognition as designers' minds whilst still creating, physiology as designers' body language, and neurocognition as designers' brains while ideating.

Finally, an intriguing gap emerges when and how Design Thinking begins with the designerly' style of thinking and invites the managers and leaders to join this contrary experience.

Design Thinking and Designer's New Role

The 'how of design' describes the stages, techniques, tools, or shared activity, as well as the object or outcome of design. Designers' work in the era of AI seems to be more about conceiving a newer offering and then designing the creative loops that will create and design tailored services for individual consumers, rather than merely ideating things to be marketed at scale. There are two primary capacities in the problem-solving loops. First, the capacity to collect, clear, and standardize data using sensors, as well as the ability to combine them. The ability to solve a customer's problem comes in second. Various organizations are employing algorithms to understand their customers in ways which are creative but not designery. Design Thinking is being embedded and engrained in the learning processes in Information Systems and anchored in the background of business intelligence and analytics (Chongwatpol, 2020).

For instance, Netflix discovered that consumers had a wide range of tastes and interests after analysing user data. As a result, it was determined that all users should be offered an artwork created exclusively for her, generated from movie frames. The work would trace the features of the title that are particularly important to that person (Verganti, 2020). Each single season of a TV show, consisting of roughly ten episodes, has nearly 9 million frames. It would be laborious and unproductive to ask designers to go through that many frames of video to produce work that would attract the audience's attention. However, AI Factories, namely reinforcement creative learning loops, can successfully handle this design constraint. Netflix employs reinforcement re-learning and multi-arm algorithms to enhance time investigating possibilities and time exploiting the answer provided by the models. This allows us to exploit the most recent accessible data and learning and, as a result, generate a better unique solution every time. There is no longer a blueprint for a product or service that operates as a barrier between design and its use. The answer is that design, use, and delivery, are move together (Verganti, 2020).

Most AI algorithms do not argue resemble designers; it is impossible to automate a designer's thinking since they operate in a unique manner. There have been various attempts to understand the way designers think, feel and act, for instance, a study examines the implications of design thinking systems based on the designers' competence using their ontology (Kannengiesser, 2019). Design thinking exemplifies the process theory of thinking, as proposed by System 1 or fast thinking and System 2 or slow thinking (Kahneman 2011). To achieve near-real-time data coding

(Marsh et al., 2022), voice recognition might be incorporated to the automated coding of the protocols. Even attempts to understand and map divergent and convergent thinking of the mind while engaging the alternate us activities using machine learning support vector machines have been implemented (Stevens & Zabelina, 2020). However, the question remains: can these insights be embedded in the way AI world imitate human driven processes? However, the cases of Netflix, AirBnB, Hotstar, and others are examples of ‘weak’ AI that are built on easy tasks like as detecting a form in a picture or determining whether two photos have different shapes and patterns. As a result, weak AI is necessarily ‘stupid’. However, by reproducing these jobs millions of times and feeding them massive amounts of data, weak AI may generate intricate predictions that even outperform human skills in terms of cost, scale and speed of problem solving. Designers are not taught in this manner since their mental frames are conditioned to accept complicated assignments. To harness the potential of AI, they require unparalleled capabilities, such as the capacity to envisage what a dumb system can achieve when working at scale.

The rose-coloured image, on the other hand, concerns the moral ramifications of loops when they grow up swiftly, resulting in effects on a vast scale, including the amplification of biases. There seems to be an enormous gap in terms of how to offer designers the correct frames to anticipate the major effect of their work. Nevertheless, an algorithm developed to resolve a problem can’t refuse to solve it, until this coded in the design, but a human being can, human always can. Humans can space-out design if it does not make moral, emotional, or intrinsic motivational sense (Verganti, 2020).

AI has caused changes in the design process; the first significant shift is in the object as well as subjects of practise, or the ‘what’ of design. Designers have always employed design thinking to build solutions, products, services, and experiences that can be offered at scale. What a consumer observed and sensed had originally been imagined and refined by designers utilising designerly methods of thinking and interpreting, even down to the level of specifics, such as a visual to be presented on a screen. In contrast, with AI, the exact ideation encountered by an individual user, such as what one sees on the screen, is not only presented but created ‘in the moment’ by an AI-powered problem-solving loop.

In other words, in the context of AI, designers don’t need to design solutions which can be well created by the AI engine, they need to design the problem -solving and design thinking loops. There is yet another germane

gap here regarding whether the designing of these loops employ design thinking processes? How are these loops truly and morally empathizing the customer needs to create value?

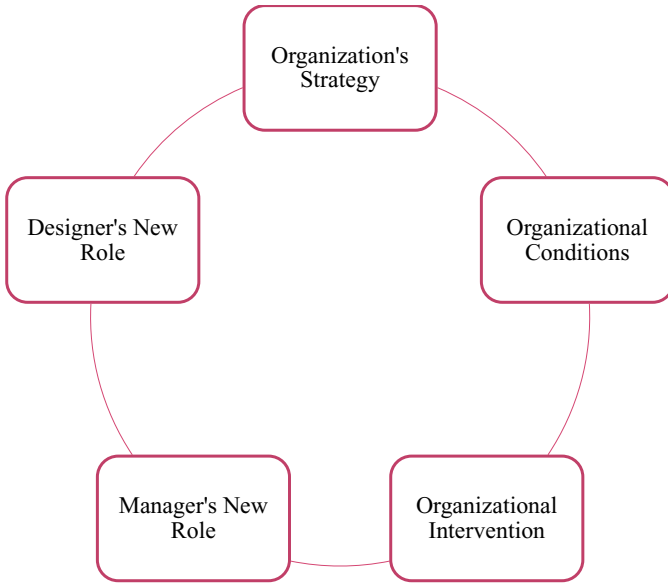


Figure 3: Design Thinking in AI-based Organizational Dynamics Taxonomy.
Source: Author Compilation

Discussion

Since the first innovation curriculum was held at Harvard University in 1947, many unique interventions have been applied all around the world, where future academics have placed a greater emphasis on adding more empirical approaches, hybrid methods, and econometric/statistical tools to increase the precision of design thinking algorithms. To synthesize, while theoretical growth has been gradual, there has been inadequate progress in the conception and execution of varied concepts related to the function of design thinkers and AI algorithms. This article argues that the issues affecting organizations demand far-reaching changes beyond managerialism. We believe that the following questions require a call to action.

- A. How to train employees to become design thinkers?
- B. Where should design thinking be located and how should it be structured in organisational settings?
- C. How can leaders start Design Thinking processes and create constant touch points for its rigorous implementation?

- D. How can managers be trained to understand, adopt, and blend the designers' style of thinking with their regular analytical, critical, and managerial thinking?
- E. How does the role of design thinker modify to fit the role of an algorithmic designer in organizational settings?
- F. How can an algorithmic designer employ the use of design thinking to enhance organizational processes?

Implications

The study will assist policymakers and organizational designers in understanding the potential and scope of design thinking in the creation and implementation of novel algorithms for organizational dynamics. By using AI technology, the design thinking approach may assist in increasing the efficiency of existing settings. This study has also opened new avenues and themes for academicians to make fresh discoveries in the underlying domain.

Conclusion and Future Scope

User research may assist in ensuring that new ideas are user-driven and employing the design thinking framework by taking a step back and being open-minded, evaluating different points of view, scanning for bias, exploring adjacent alternatives, and innovating. By engaging in this distinctively human thinking, we stay engaged, relevant, and active players in determining our current and future knowledge. Whilst also waiting for the real taste to be put on, AI can competently offer plain white toast of content, but no one wants plain white toast. The data's duty is to figure out which flavour or spice will turn the toast the far more enticing.

Humans are the only species that can participate in reflexive self-aware cognition. Machines do not behave autonomously. Decisions, whether active or passive, have an impact on the algorithms that have become a barometer of contemporary life. As a result, humans hold the task of exercising human agency to think critically about the information offered to a wiser society. Nonetheless, AI is not here to challenge design principles and practices but to build onto them to design for efficient problem-solving loops with a promise of progress.

Limitations

As research in this area is emerging actively, this paper has attempted to provide a comprehensive review of the field, yet it is not free of limitation.

This study uses only Scopus database to conduct SLR. This database was employed because a comparative study of databases regarded that Scopus has the widest (Falagas et al., 2008; Zupic & Čater, 2015) coverage against Web of Science and Google Scholar (de Battisti & Salini, 2013).

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Social Media Use in Marketing of Agricultural Products – A Case Study

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Abstract

The study looked into how farmers were marketed agricultural products on social media in Telangana's rural communities. The objective of the study was to ascertain the degree of usage of social media for marketing agricultural products in Telangana.

Social media has made communication more dynamic than ever when it was first introduced. More virtual than physical means of communication are now used. Social media is capturing the attention of both young and old people alike, and this trend is here to stay. Social media will influence how people communicate, share information, form ideas, and drive both individual and group actions for a considerable amount of time in the future. Since the start of the twenty-first century, India's agricultural extension system has seen significant modifications. In a system of agricultural extension that is young and undergoing rapid change, social media can be quite important. In light of the aforementioned reality, a study was carried out to ascertain how the social media was used in marketing of agricultural related products marketing. Sharing information and looking for news and events were the main activities on social media. The lack of validity of the information provided online was a significant barrier to using social media. According to the study, the majority of respondents were familiar with social media and used these websites to communicate with friends and family. Overall, the study revealed that social media can be a highly helpful instrument for rural advisory services and agricultural extension.

Keywords: *Social Media, ICTs, Agricultural Products, Technology, Mobile Apps*

Introduction

Because humans are social animals, they have always lived in communities, but the development of information and communication

technology (ICT) has significantly altered their interpersonal relationships, particularly with the introduction of social media. The vast range of Internet-based digital technologies that enable users to take part in online discussions, contribute user-generated material, or interact with online communities collectively are referred to as “social media.” By accessing, visiting, and sharing their lists of social connections with other users, these online applications enable individuals to keep up social ties. These tools can be used to create social spaces where users can interact and communicate private information, such as community-based personal web pages, chat rooms, and online discussion forums. Social media applications are relevant not only for large-scale business and marketing activities due to their many uses and benefits, but also because they provide opportunities for education, research & development, and agriculture sectors at a cheap cost and higher degree of efficiency.

Agriculture is very important for the Indian economy. Technology awareness, computer literacy and usage of smart phones and internet are increasing across the nation. Social media in agriculture is playing a very effective role in dissemination of different agricultural information. It helps to bridge a geographical distance between the farmers of different places. There are more than 100 Information and Communication Technologies (ICTs) based initiatives such as e-Chou pal, e-aqua, Digital Green etc. which have been launched in India for the development of agriculture and rural development.

Social media helps the farmers to sell their produce at good prices without involvement of middlemen. Health sector has also benefited the rural people by the use of social media. WhatsApp video calls are sometimes very useful specially in sharing the useful information. Social media like Twitter and Facebook has connected the people across the globe. Many of the Indian villages are deprived of regular supply of electricity and the internet connectivity is still a far fetched dream for these areas but still there are various success stories where Facebook, the famous social networking site has helped rural people to make a difference in their lives. Facebook once helped various turmeric growers from Maharashtra. The WhatsApp groups of different crops growers can share their information each other. Due to the oversupply of turmeric in the market the rates were reduced by which the farmers were suffering. Then one of the farmers of the area discussed over the turmeric price with the other farmers of the country on Facebook. Then the other farmers of the area didn't participate in the local auction of turmeric. Then 25000 turmeric growers heard the boycott. After

sometimes the price of turmeric was doubled. Social media can also help the farmers to connect with the agri-dealers, weather advisories etc. and new agricultural methodologies can be exchanged by the farmers.

The special features of participation, openness, conversation, community and contentedness makes social media a unique user experience (May field, 2008). Facebook has 195.16 million active users in India, YouTube gets more than 50 million unique users each month, Twitter has 23.2 million users, Whats App has 70 million users in India and the highest monthly active users in the world (WWW. statista.com, 2016). All these statistics prove the huge potential that social media can be for extension practitioners to reach out to the people. India is a huge market for social media that is constantly expanding into the rural areas and that improves the scope of reaching not only the farmers but the farm families and youth altogether for higher impact.

Literature Review

Social media has been recognized as a viable marketing tactic by many organizations across the globe to reach their key audiences. Dahnil et al. (2014) characterized social media marketing as involving the marketing of products, brands, services, thoughts and information via the social media platform and can be recognized as an emerging business routine.

According to Barefoot and Szabo (2010), social media marketing is characterized as utilizing the sites of social networking as channels to promote or advertise a company and selling products. Eagleman (2013) described social media as a unique form of marketing and communication strategy.

Social media overcomes geographical boundaries and creates communities who share common interests. The users also seek out information from traditional media social media platforms. Rhoades and Hall (2007) noted that there was a large presence of blogs covering topics on agriculture.

Social Media in agricultural marketing has a positive impact on the interaction with consumers, the company or brand awareness and sales (Conrad Caine 2012; Uitz 2012) and the use of social media in the field of agricultural marketing offers great opportunities for the buying, selling of agricultural commodities (Bitcom 2012).

Balkrishna & Deshmukh (2017) investigated the “role of social media in agriculture marketing and its scope.” They employed questionnaire and in-depth interviews to collect data. Results indicated that social media is very useful in agricultural marketing.

Social media gives farmers a voice and an opportunity to directly connect with their customers, which can help in direct marketing and increased profits alongside facilitating mass personal communication (Carr and Hayes, 2015). Also, they don't need to depend on a single source for information anymore and with increased contact with peers, tried and tested information at the right time can prove to be a very important input.

Objectives of the study:

- To study and analyses the social media usage in marketing of agricultural products.
- To study that Social media is adopted as a marketing tool or not.
- To study the challenges in using social media for marketing of agricultural products.

Research Methodology

This study is based on descriptive research over a social media purposively because researcher wants to know the usage of social media in marketing of agricultural products. For this study researcher selected 100 farmers by using a convenient sampling method in Telangana State and collected data by administering a structured questionnaire.

Data Analysis and Interpretation:

Table 1: Gender of the Respondents

Gender	No. of Respondents	Percentage
Male	90	90
Female	10	10

Source: Primary Data

Interpretation: From the above data, we conclude that, major respondents are from the gender male i.e. 90 % and female respondents are 10%.

Table 2: Age of the Respondents

AGE (in years)	No. of Respondents	Percentage
18 -25	15	15
26 – 35	22	22
36 – 45	54	54
46 & above	9	9

Source: Primary Data

Interpretation: The data shows that major respondents are from the age group of 36-45 years i.e., 54 %. Below that the age group is 26-35 years i.e., 22% and 15% are belongs to the age group of 18-25 years.

Table 3: Educational Qualifications of the Respondents:

Educational Qualification	No. of Respondents	Percentage
Below SSC	21	21
Intermediate	48	48
Graduation	24	24
Post - graduation	7	7

Source: Primary Data

Interpretation: The data shows that, most of the respondents were intermediate i.e., 48 % followed by graduation i.e. 24 % and 21% are studied up to SSC.

Table 5: Social Media Account

Social Media Account Status	No. of Respondents	Percentage
YES	100	100
NO	NIL	NIL

Source: Primary Data

Interpretation: All farmer are having an account in various social media websites/Apps.

Table 6: Social Media Platforms

Social Media Platforms	No. of Respondents*	Percentage
Facebook	75	75
Whats App	100	100
Twitter	11	11
YouTube	68	68

Source: Primary Data (* Multiple Answers were permitted)

Interpretation: From the above table, we can say that, all the respondents are having account on social media. Most of them are using Whats App followed by Face book and YouTube.

Table 7: Frequency of using Social Media

Frequency of Using	No. of Respondents	Percentage
Multiple times in a day	8	8
Once in a day	53	53
Twice in a week	26	26
Weekly once	10	10
Fort nightly	3	3

Source: Primary Data

Interpretation: The data shows that, majority of the respondents i.e. 61 % may use social media every day.

Table 8: Purpose of using Social Media

Purpose of Using	No. of Respondents*	Percentage
To know the information about Agri products	75	75
To share the information about the Agri products	51	51
To sell or buy the Agri products	80	80
To know the market rates for Agri products	56	56
To know the useful tips/ techniques about crops	52	52
To know the weather Report	46	46

Source: Primary Data (*Multiple Answers were permitted)

Interpretation: The data shows that, most of the respondents are using social media for information seeking and followed by Selling or buying of Agri products.

Table 9: Sources of Information about Social Media

Sources of Information	No. of Respondents	Percentage
Self-knowledge	12	12
Fellow farmers	20	20
Dealers	12	12
Agricultural dept	30	30
Corporate Company field staff	15	15
Advertising	21	21

Source: Primary Data

Interpretation: The above table assess the Ways & means and sources through which the farmers know about the social media marketing sources/ locations for marketing their agricultural products through Agricultural dept is 30 % and follows by fellow farmers i.e. 20%.

Table 10: Challenges in using Social Media

Challenges	No. of Respondents*	Percentage
Not having sufficient Data/Network issues	54	54
Less trust on e-buying	36	36
Cost of Technology	41	41
Lack of proper skills in using social media	52	52
Time Management	57	57

Source: Primary Data (*Multiple Answers were permitted)

Interpretation: The above table data shows that, majority the farmers are facing a problem of time management i.e. they are unable to post the information in time and do the following and follows by Network issues and Lack of skills.

Table 11: Rate the Attractiveness of the advertisement through social media agricultural marketing

Particulars	No. of Respondents	Percentage
Very Attractive	22	22
Attractive	66	66
Less Attractive	6	6
Not at all Attractive	6	6

Source: Primary Data

Interpretation: Form this study, only 22 percent customers are very attractive by the advertisement provided by mobile marketing 66 percent are attractive, 6 percent less attractive and 6 percent are not at all attractive.

Table 12: Adoption level of Social Media Marketing

Level of Adoption	No. of Respondents	Percentage
Medium Low	7	7
Medium	18	18
Medium High	50	50
High	25	25

Source: Primary Data

Interpretation: The data shows that, Majority farmers are rated their adoption level as medium high i.e. 50% and followed by High level i.e. 25%.

Chi-Square Analysis:

The chi-square test used to know the association between two variables (Age and Educational Qualification) and adoption level of social media. The hypotheses developed and tested are as follows:

H_a 1: There is a significant association between respondents Age and adoption level of social media marketing.

H_a 2: is a significant association between respondents Educational Qualification and adoption level of social media marketing.

Table 13: Chi square Analysis

Variables	Degree of Freedom	χ^2 Value	Table Value	Decision
Age	9	520.9683	16.919	H_0 Rejected
Educational Qualification	9	21.5645	16.919	H_0 Rejected

Source: Primary Data

Interpretation: Chi-square value from the table for 9 degrees of freedom at 5 percent level of significance is 16.919. Since the calculated values of Chi-square are greater than table value, the H_0 may be rejected. Hence, it may be concluded that, age of the respondents and educational qualification of the respondents are significantly associated with adoption of social media marketing.

Findings/Recommendations:

1. Majority of the respondents are male and falling under the age group of 36-45 years.
2. Most of the respondents are studied up to intermediate and doing agriculture.
3. All the respondents are using social media and using Whats App, YouTube for their activities every day.
4. Majority of them are using social media to seek the information and to participate in selling and buying activities.
5. Majority of the farmers came to about the social media through the Agricultural department, Advertising and fellow farmers.
6. Majority of the farmers are not finding the sufficient time to use social media and also they are facing problems in posting the information due to lack of technical skills.

Conclusion

Smart phones /Android phones are the breakthrough to the farmers where they use Apps and internet enabled services in marketing of agricultural products. They are receiving the complete information about supply and

demand of the crops, selling prices, Weather reports, and all about agricultural output. Social media has become a platform to fetch knowledge irrespective of any other factors. Traditional agriculture marketing is no longer sustainable as the middle men & expenses on marketing are high distortion.

At the same time, farmers are facing many challenges in marketing of their output which includes high data price and poor network in rural areas. Government should come forward to educate the farmers and provide quality infrastructure to solve the present constraints in using social media. Then social media become the voice of the farmers and provide invaluable networking opportunities.

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Exploring the Impact of S-Commerce: A Bibliometric Review

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Abstract

Rising social media popularity has increased the use of Web 2.0 technologies in the realm of commerce, which has caused e-commerce to evolve into a new concept known as S-commerce. This idea describes the customer's purchase intention and behavior through social networking sites like Twitter, Facebook, Instagram, and others. The aim of this study is to analyze relevant research publications to identify the most cited countries, themes, most relevant journals, country-wise increase in the publications, most used keywords in the theme as well as significant gaps in the existing literature related. By collecting and analyzing the relevant papers, we conducted a bibliometric analysis using R software to study the concept of S-commerce with respect to consumers. The review highlights that trust, perceived usefulness, and perceived risk were the most studied variables that affect consumers' attitudes and intentions toward social commerce. Furthermore, the study analysed the prevalence of Social Learning Theory, and S-O-R Theory in the existing literature. China and Korea were the most studied nations that explore the concept of social commerce. The scope of the study is limited to a few keywords. To provide a more thorough understanding of social commerce, future studies need to take a broader range of keywords into account.

Keywords *S-commerce, Social Commerce, Consumer, Customer*

Introduction

The practice of using social media sites like Instagram, Facebook, Twitter, and Pinterest by businesses to promote online purchases and sales

of goods and services is known as social commerce (Huang & Benyoucef, 2015). In recent times, social commerce has emerged as an approach for businesses to establish a strong connection and foster engagement with their customers (L. Zhou et al., 2013) by bridging the gap between social media and e-commerce. S-commerce users employ social networking sites (SNSs) as a tool for collaboration (Noh et al., 2013) to share online shopping experiences and related information. In addition, s-commerce users make informed purchases and obtain the best prices by exchanging trustworthy information on certain products and services, which is a unique strength of s-commerce. (Kim & Park, 2013).

Social commerce enables businesses to exhibit their merchandise, advertise their brand, and engage with customers by leveraging social media platforms (Shadkam & O'Hara, 1970). This creates a more personalized and engaging shopping experience for customers, and it allows businesses to build relationships and loyalty with their customers. Social media is a form of electronic communication, made possible by Web 2.0 technologies, that allows users to create and share online content with other users. (Cutshall et al., 2022). In addition to traditional e-commerce features such as product listings and checkout processes, social commerce often includes social features (Huang & Benyoucef, 2015) such as product reviews, user-generated content, and social sharing. These social features enable customers to share their experiences and opinions with others, which can increase brand awareness and drive sales. There are several social commerce models that have emerged in recent years, including social media storefronts, social shopping networks, Peer-to-peer marketplaces, and Group buying.

The main purpose of this review is to analyze available research and develop a comprehensive understanding of the variables that affect consumer intention and purchasing behaviour. The study aims to highlight significant characteristics and new trends, present a methodology for assessing social commerce in the context of customers, and offer direction for future research by methodically synthesizing the body of existing knowledge.

This paper is divided into six sections: The first section provides an introduction to the topic and sets the stage for the ensuing discussion. The second section offers a detailed analysis of s-commerce, while the third section describes the methodology utilized in the study, including the criteria for inclusion and exclusion, as well as instructions for conducting a review using the PRISMA report protocol. The fourth section contains the findings of this review, which analyses existing research to develop a comprehensive understanding of the variables that impact consumer

intention and purchasing behavior regarding social commerce. Section 5 identifies the research gaps in the literature, and the final section, section 6, presents the study's conclusion and limitations.

Social Commerce

Social media is a form of electronic communication, that allows users to create and share online content with other users. (Cutshall et al., 2022). Overall, the emergence of social commerce is a response to changing consumer behaviour and the increasing role of social media in people's lives. It offers businesses a new way to reach potential customers and to provide a more personalized and social shopping experience. This study is an essential resource for researchers working on the topic, as it compiles all the previous studies on social commerce at one place. Social commerce enables businesses to exhibit their merchandise, advertise their brand, and engage with customers by leveraging social media platforms (Shadkam & O'Hara, 1970).

Social commerce has managed in a very short period to reshape the way consumers search for product-related information and make purchase decisions (Mikalef et al., 2017). Social commerce also offers a more personalized shopping experience for customers (Shadkam & O'Hara, 1970), as businesses can use customer data to target their advertising and provide personalized recommendations. Social commerce can also make the shopping experience more social, as customers can share products with their friends and receive feedback from them. Understanding how social commerce consumers make decisions is an important thing in the area of strategic marketing (Seo & Moon, 2016).

Methodology

For examine the relevant articles on social commerce published in the Web of Science database, the bibliometric analysis method using R software (version. 4.2.2) was utilized. (Boell & Cecez-Kecmanovic, 2015). Bibliometric analysis is the technique employed for analysing existing literature (Secundo et al., 2021). This study also employed the PRISMA report protocol for article purification.

Bibliometric Analysis

Bibliometric analysis is a quantitative research method to understand the patterns and trends of research in a particular field through bibliographic data. Bibliometric analysis using R Version 4.2.2 can provide valuable

insights into the structure and dynamics of scientific research fields using various R packages, such as “bibliometrix”. It can also help identify potential research gaps and collaborations.

PRISMA

PRISMA, which stands for Preferred Reporting Items for Systematic Reviews and Meta-Analyses, is a vital tool for researchers who want to conduct high-quality systematic reviews. The PRISMA framework is a flow diagram (Aqil et al., 2009) that highlights the essential elements of a systematic review. Its fundamental objective is to ensure accurate, thorough, and transparent reporting of study findings (McInnes et al., 2018). PRISMA enables researchers to highlight key areas for further study and discover gaps in the literature.

Identification

The initial stage of the PRISMA framework is the identification phase, which encompasses setting up predetermined inclusion and exclusion criteria, followed by an extensive literature search to pinpoint relevant studies. A search on the Web of Science database related to S-commerce shows 73 articles using the relevant keyword.

The query used to retrieve items from the database is -

TI = ((“social commerce” OR “S-COMMERCE”) AND (“consum*”))

Screening

In this stage, all identified studies were screened for their possible relevance with the research topic based on inclusion/exclusion criteria. Out of 73 articles 71 articles are included in the study based on the following inclusion criterion – only journal articles published in English language. As shown in figure 1.

Eligibility

During this phase, the number of articles that passed the screening test is refiltered to test the eligibility. 25 articles were excluded after studying and evaluating the title (4 studies) abstract (8 studies), and full-text reading (13 studies), as articles were not aligned with the theme of the study. So, this study finally includes a total of 46 articles social commerce.

Inclusion

All pertinent articles published up to March 10th, 2023, were finally included in the study, which were thoroughly examined to offer deep insights about findings and future research directions.

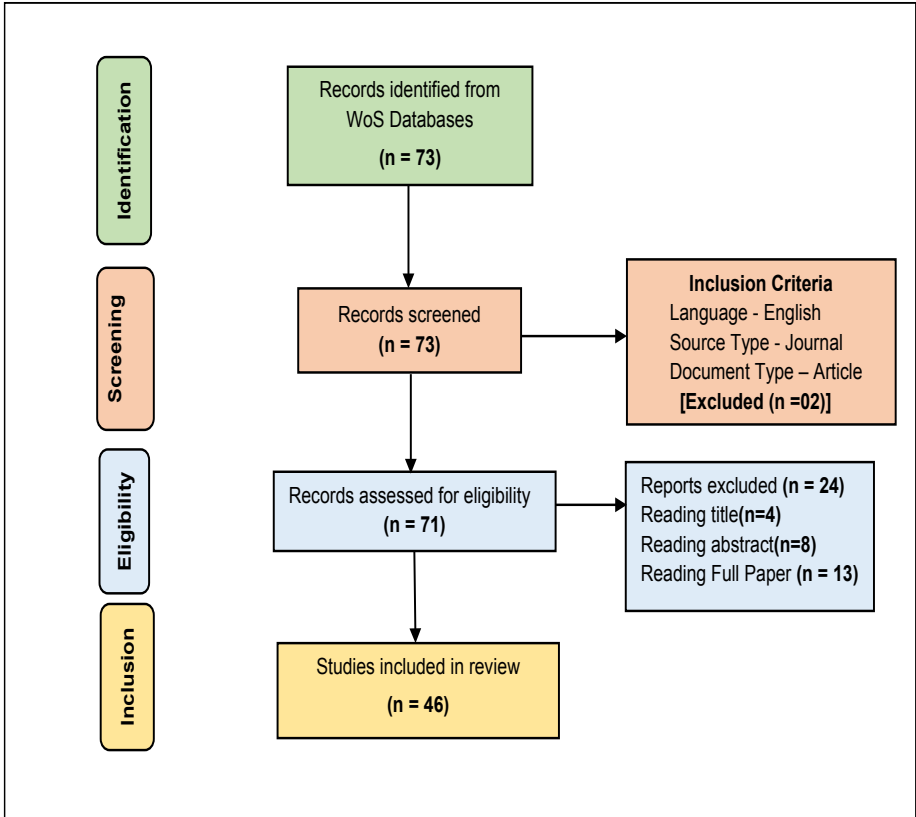


Figure - 1: PRISMA flow diagram (Moher et al., 2009)

Findings

This study paper's primary goal is to undertake a bibliometric review that synthesizes prior research on the topic of S-commerce in connection to customer buying behavior and offers recommendations for future studies in the area through the analysis of all pertinent publications. The following lists the review's main findings:

Countries

The number of articles on social commerce is on the rise, as seen in Figure 2, demonstrating its growing interest and significance in this area. Notably, China has the most publications and the largest year-over-year growth rate, followed by Korea, Malaysia, and the UK. This pattern might also point to the expanding significance of social commerce in the current digital economy and its potential for future expansion.

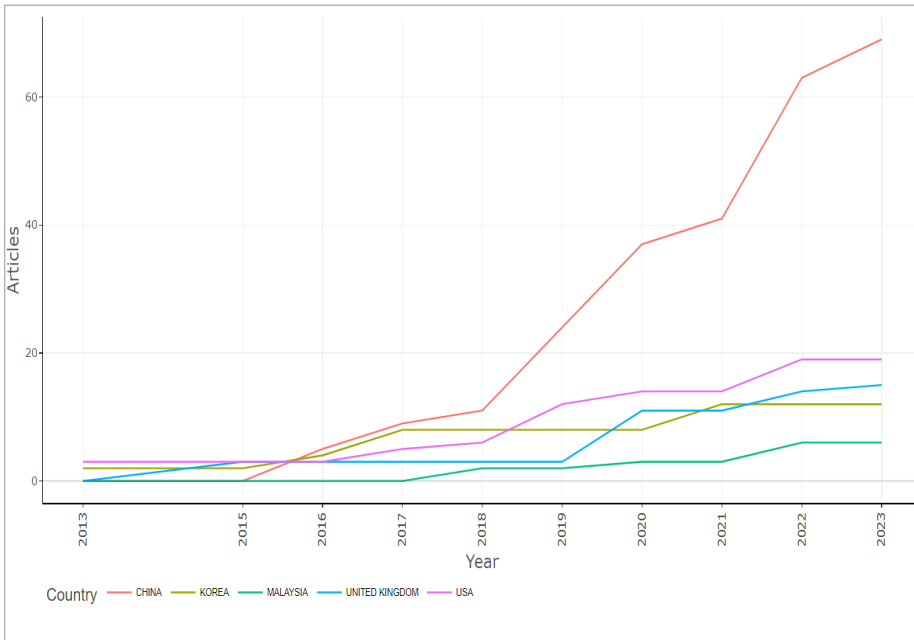


Figure -2 Country Production Overtime

Journals

As per the review, 29 sources or publications that publish pertinent papers on social commerce have been found. Figure 3 lists the top 10 journals, with the International Journal of Information Management having the most publications (6 articles), followed by the Asia Pacific Journal of Marketing and Logistics and Internet Research, each with four articles. People and Information Technology have each published three articles on the subject and, Behaviour and Information Technology with two. Data identifies the important and well-known sources of information for study in our field of interest.

S. NO.	JOURNALS	NUMBER OF PAPERS
1	INTERNATIONAL JOURNAL OF INFORMATION MANAGEMENT	6
2	ASIA PACIFIC JOURNAL OF MARKETING AND LOGISTICS	4
3	INTERNET RESEARCH	4
4	INFORMATION TECHNOLOGY & PEOPLE	3

the field of social commerce, with a significant number of ongoing research projects. Korea and the UK follow China with relatively high numbers of citations, indicating their growing interest in the field. The trend highlights the global interest and attention being paid to social commerce research and development, particularly in the mentioned countries.

Thematic Map

Thematic maps are useful for researchers as they provide a visual representation of data that can reveal patterns and trends that may not be immediately obvious from raw data. Our thematic map analysis revealed that most of the research in the field of s-commerce focuses on core themes such as customer purchase intention, e-commerce, roles, features, attitudes, and customers. Trust, impact, and intention are considered intermediate themes lying between core and advanced themes. Basic themes identified in the analysis represent areas that are not explored in depth, providing opportunities for future research. On the other hand, emerging or clinging themes such as personality, learning theories, and SEM are gaining attention in the research community. Niche themes such as adoption and communities indicate areas where relatively less research has been conducted.

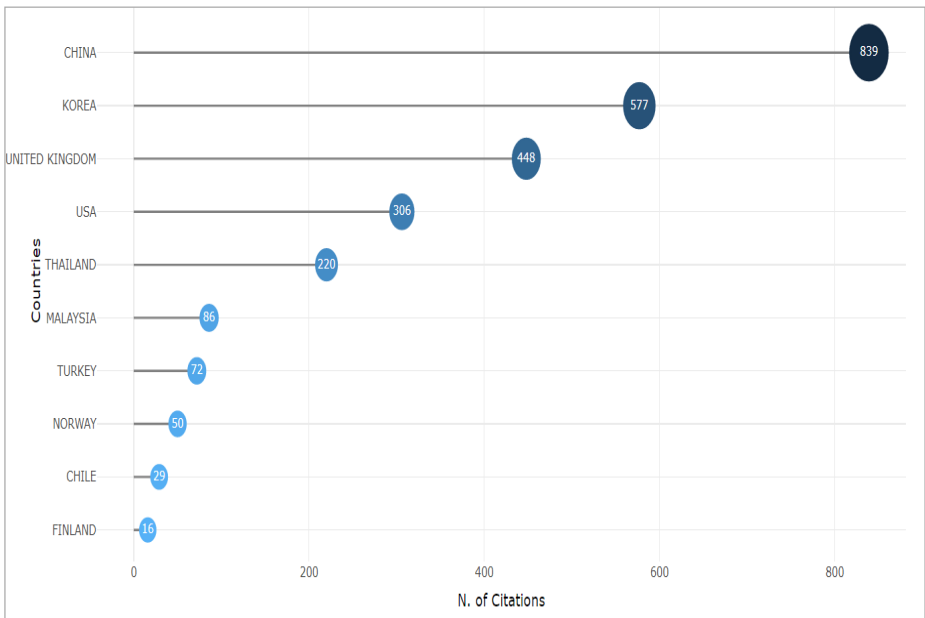


Figure -5 Country-wise Citations

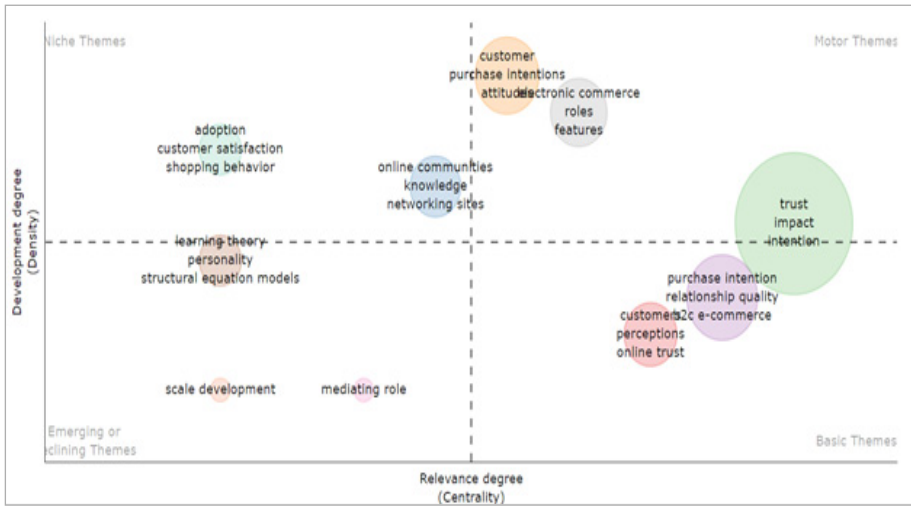


Figure – 6 Thematic Map

Research Gaps and Future Agenda

The examination of literature highlights several gaps in research that require further scholarly attention. These are the following gaps in the existing literature:

- Future research should aim to expand the scope of the research subject, account for platform variations, and enhance the applicability of the research findings. Furthermore, future studies can adopt a more comprehensive approach to examining the variables that impact repurchase intention (Guo & Li, 2022).
- The research on social commerce in the Indian context has been limited, with most studies conducted in China. India being one of the biggest markets it suggests a geographic gap in the existing research.
- Although being a crucial component of social commerce, user stickiness has received less attention in the literature (Gao et al., 2022). User stickiness is a critical factor in determining the success of a social commerce platform, as it refers to the ability to retain its users and keep them engaged over time.
- There is a notable gap in the literature regarding longitudinal studies to track consumer behavior over time. So, longitudinal studies are necessary to gain a more comprehensive understanding of how consumer behavior evolves and changes over an extended period.

- Future research should examine how individuals' demographics and characteristics may influence their behavior in s-commerce (Bianchi et al., 2017). Such studies could help to shed light on the extent to which these factors play a role in shaping individuals' behavior in social commerce.
- According to (Rashid et al., 2020) the connection between experiencing pleasure and achieving contentment is worth exploring in research. There is potential for further research on identifying individuals' encounters with enjoyment and satisfaction.

Conclusion and Limitations

The research in the field of s-commerce is limited but there has recently been a surge of interest in this area. A limited number of variables were studied in the study and mostly papers focused on studying the intention to purchase. This review also explores several significant discoveries, such as country-wise citation analysis, thematic maps, commonly used words, and top journals that produce quality papers. These findings suggest that there is still much to be explored in the field of s-commerce, and further research could uncover new variables and insights that may influence consumer behavior in this context.

The study acknowledged certain search scope limitations as it only used single database (Web of Science) and excluded publications published in languages other than English, which may have led to the omission of relevant studies. Furthermore, the review did not include any other type of publications, except journal articles. Despite these limitations, this review provides a comprehensive analysis of existing research on the adoption of social commerce and offers suggestions for future study. Overall, it is a valuable resource for researchers seeking to understand the impact of s-commerce on consumer behavior.

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Table 1: Literature Review of Studies on the social commerce:

S. No.	Author's	Model/Theory	Data Collection & Country	Variables/Factors
1	(S. Kim & Park, 2013)	TRA theory	371 s-commerce users, Korea	E-Commerce Characteristics, Trust, and Trust Performance
2	(X. Hu et al., 2022)	Motivation theory	303, China	Source credibility, Source Interaction Perceived usefulness, Information Support system, Continued Social commerce Intentions
3	(Cutshall et al., 2022)	TAM model	525, United nations	Technology Competence, Perceived Security, Perceived Privacy, Normative Beliefs, Social presence, Perceived Trust, Perceived ease of use, Intention to use social commerce
4	(X. Wang et al., 2019)	Self-determination theory	408, U.S. A	External motivation, Introjected motivation, identified motivation, Integrated motivation, Social commerce information, contributing intention and behaviour, Perceived benefits of social commerce, Gender
5	(Mikalef et al., 2017)	—	165	Socializing, personal recommendations, Product selection, Information availability, Purchase Intention, Word of mouth
6	(Tariq et al., 2019)	—	653 China	Health Consciousness, Quality, and safety certification, Price, Environmental and ethical consumerism, social consciousness and fashion trends, Customer attitude towards organic products, Online Impulse buying behaviour
7	(Shin et al., 2020)	ELN theory	492 Korea	Functional Perspective, Hedonic Perspective, Customer Satisfaction
8	(Akman & Mishra, 2017)	-	—	Perceived Ethics, Perceived Trust, Perceived Enjoyment/Easiness, Perceived Social Pressure, Perceived Satisfaction, Perceived Awareness, Behavioural Intention (BI) to use SC, Actual Usage (AU) of SC
9	(Bugshan & Attar, 2020)	—	400 Asia	Social commerce information sharing activities, Trust in sharing commerce platform, perceived privacy risk, Intention to buy
10	(Hajli, 2015)	TAM model	243 U.K.	Social Commerce constructs, Trust, Intention to buy
11	(Nadeem et al., 2017)	UTAUT2 model	309	Performance expectancy, Effort expectancy, Facilitating conditions, social influence, Hedonic motivation, Trust, BI to use Facebook for shopping, Actual use of Facebook for shopping
12	(Changchit et al., 2022)	MBTI theory	312	Mind: Extraverted (E) – Introverted (I), Energy: Sensing (S) – Intuitive (N), Nature: Thinking (T) – Feeling (F), Tactics: Judging (J) – Perceiving (P), Age, Gender, Income, Return experience, social commerce preference

13	(Mensah, 2022)	TAM model and Social Exchange Theory (SET).	632 China	Experience in social commerce, trusting beliefs, Intention to Purchase in social commerce
14	(Chung et al., 2017)	Process theory	332 Korea	Impulsiveness, Hedonic shopping value Utilitarian shopping value, urge to buy Impulsively, Scarcity, Serendipity
15	(P. Wang & Huang, 2022)	–	18 China	Expert Power, Informational Power, Referent Power, Reciprocity Power, Content Participation, Content Creation Community Purchase Behaviour
16	(Yang, 2019)	–	243 China	Guanxi elements (ganqing, a measure of the emotional attachment in a relationship, renqing, the moral obligation to maintain a relationship with reciprocal exchange of favours, and Xinren, or the amount of interpersonal trust. Social shopping intention, Sense of belonging sharing intention
17	(Seo & Moon, 2016)	–	384 Korea	Decision-making styles, social S commerce consumers, perceived risks and consumer characteristics
18	(Yusuf et al., 2018)	Elaboration likelihood model, theory of reasoned action and social support theory	218	Information Quality, Information Credibility, Website Quality, Innovativeness, Social Support, Attitude towards, Ewom, Engagement, Purchase Intention
19	(Sadeli et al., 2023)	TPB and Alphabet theory	Indonesia	Behaviour Intention, Behaviour
20	(Shahbaz et al., 2020)	–	367 China	Customer trust in platform, psychological contract fulfilment, Affective fulfilment, Consumer loyalty, Repurchase intention
21	(Lin et al., 2020)	Theory of consumption values		Social commerce characteristics, Organic Food Characteristics, Functional value, Emotional value, Purchase Intention,
22	(Bianchi et al., 2017)	—	Chile (n = 178), Spain (n = 166), South Africa (n = 381) and Australia (n = 300)	Trust in the firm's SNS (TR), Involvement with the firm's products and services (INV), Peer communication (PCS), Online social interaction propensity (OSIP) Consumer satisfaction with the firm's SNS (SAT), Social media dependency (SMD), Intentions to purchase in s-commerce
23	(Cho & Son, 2019)	TAM model	446 U.S. A	Social connectedness, Attitudes towards social commerce, Intentions to adopt social commerce

24	(H. Liu et al., 2016)	S-O-R MODEL	349 China	Perceived expertise, Perceived similarity Perceived familiarity, Flow Experience, Purchase Intention
25	(Xiang et al., 2016)	Para social interaction (PSI) theory, S-O-R Theory	248 China	task-related (TR), mood-related (MR), social-relevant (SR) features, Cognitive Reaction, Affective Reaction, Para social Interaction, Impulse Buying Behaviour
26	(Huang & Benyoucef, 2017)	–	China	Design quality, Purchase decision-making
27	(Wongkitrungrueng & Assarut, 2020) Facebook Live	–	261 Bangkok, Thailand	utilitarian value, symbolic value, hedonic value, Trust in a product, Trust in the seller. Customer engagement.
28	(Khan et al., 2022)	Social cognitive theory	191 Germany	—
29	(Lin et al., 2018)	–	511 China	Informational support, Emotional support, swift guanxi (which refers to consumers' perception of an interpersonal relationship with a vendor), Trust, social shopping intention, social sharing intention.
30	(Riaz et al., 2021) -	Social learning theory	232 Pakistan	Social commerce construct, Social Support, Decision Making
31	(Bazi et al., 2020)	Social Support Theory, Social Commerce Value Theory and Social Commerce Information Exchange	234 Iran	Social support, social commerce information sharing, social commerce value, Brand engagement Co-creation intention
32	(Gao et al., 2022)	Social Presence Theory, Social Support Theory	411 China	Presence, Social Support, Attachment to SMIS (Social Media Influencer), Community Identification, Visit Duration, User Retention
33	(Leung et al., 2022)	Expectation–confirmation model (ECM), Role theory	273 China	Product type, Confirmation, Brand Awareness, Perceived functional customer orientation, Customer satisfaction, Perceived relational customer orientation, Repurchase Intention, WOM intention
34	(S. Hu & Zhu, 2022)	–	2508 Different Countries	Social media usage for information, Cultural distance, social media usage for socializing, Cultural intelligence, Purchase Intention
35	(W. Zhou et al., 2022)	–	443 China	Interpersonal Interaction with online vendors, Relationship Quality, Purchase Intention

36	(X. Wang et al., 2019)	S-O-R Theory	514 China	Social commerce features, perceived value, Re-purchase Intention
37	(Zhao et al., 2019)	Trust transfer Theory	206 China	Social support, Trust in seller, Brand Trust, Continuous Purchase Intention, Promotion
38	(Yang, 2022)	–	299 China	eWOM social media type, conflicting eWOM, psychological distance, perceived value, and perceived cognitive effort, Purchase intention
39	(C. Liu et al., 2019)	S-O-R model	288 China	Perceived informativeness, Perceived persuasiveness, Trust toward site members, Purchase intention, consumers' social presence
40	(Friedrich et al., 2021)	–	237 Germany	Social commerce features richness, social support, Social Presence, Social influence, Buying Intention
41	(Y. Wang et al., 2020)	social support theory	China	Social support, Consumer involvement, Social commerce engagement,
42	(Y. Wang & Yu, 2017)	observational learning theory	217 USA	Online Social Interactions in S-Commerce Environment, Intention to Purchase, Actual Behaviour
43	(Rashid et al., 2020)	–	303 China	Social Factors, Purchasing Intention, Mooring Effect
44	(Chiu et al., 2022)	Expectation confirmation model (ECM) and Information adoption model (IAM).	American (725) and Chinese consumers (864).1589	Continuance Intention,
45	(S. B. Kim et al., 2013)	–	232 U.S, A	Hedonic value, Utilitarian value and social value, Attitude, Behaviour Intention
46	(Kwon et al., 2020)	social exchange theory	471 Korea	SET beliefs (Trust, Reputation, Reciprocity), Social Commerce site usability (ease of use, usefulness) Satisfaction Intention to Share knowledge, Intention to purchase

Chapter-27

The Rise of Economy in India

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Abstract

The idea of conducting the research on topic named 'The Rise of Economy in India', how Indian economy raised day by day against other countries.

The complete research is based on secondary data collected from different sources such as World Trade Organization and RBI. We came up with the conclusion that India is the 5th largest economy and value of Indian Rupee is growing in the Global market, where some countries have already accepted Rupee as exchange settlement. All the other factors that developed during this period, played a crucial role in the economy. India even stood strongly against COVID-19 and emerged as the father nation by providing COVID-19 vaccination.

Through this research study, we got to know how India emerged as one of the strongest economy and contribution of different sectors in growing this economy.

Key words: *Economy, Indian Rupee, Covid-19, GDP.*

Introduction

The Finance Minister's statement about India's projected GDP growth to \$5 trillion by 2024 and \$10 trillion by 2030 or 2031 indicates an ambitious goal for the Indian economy. The current GDP of \$2.9 trillion and India's position as the fifth largest economy, and third largest in terms of Purchasing Power Parity (PPP), reflect India's growing economic prowess.

India's GDP per capita, however, has historically been lower compared to the global average, standing at \$1963.55 in 2017 and averaging \$693.96 between 1960 and 2017. Despite a rise to an all-time high of \$635.55 in 2017, India's GDP per capita is still only 16% of the global average. This indicates that while India's economy is growing in terms of total GDP, the benefits of this growth may not be evenly distributed among the population.

The report by the World Economic Forum (WEF) titled "Future of Consumption in Fast-Growth Consumer Market - India" predicts a healthy increase of \$6 trillion in the size of the Indian market over the next few years. This indicates that there is potential for increased consumption and economic activity in India, which could contribute to the projected GDP growth.

However, achieving the ambitious target of \$5 trillion GDP by 2024 and \$10 trillion by 2030 or 2031 would require sustained and inclusive economic growth, addressing challenges such as income inequality, unemployment, and infrastructure development. It would also require effective policy measures, structural reforms, and investment in key sectors of the economy, such as manufacturing, services, agriculture, and infrastructure.

Overall, while India's economy has shown significant growth in recent years and is projected to continue expanding, achieving the stated GDP targets would require concerted efforts across various fronts to ensure that the benefits of economic growth are widespread and inclusive for all segments of the population.

The Indian economy has undergone significant changes since adopting the New Economic Policy in 1991, which liberalized the economy and opened it up to the rest of the world. India's membership in the World Trade Organization (WTO) since 1995 has also influenced its economic policies and global trade relations.

The agricultural sector, while still employing over 50% of the population, has seen a decrease in its contribution to the nation's GDP, currently standing at 14%. However, the government has prioritized the agricultural

sector, aiming to triple farmers' incomes by 2022, as reflected in the Union Budget 2017-18.

The industry sector, including manufacturing, has seen growth due to economic reforms and initiatives such as the abolition of the "Permit Raj" and the Make in India campaign. The manufacturing sector is seen as a key contributor to India's GDP, and government initiatives like MUDRA, Sagar Mala, and Startup India, along with increased participation from states, are expected to further boost the manufacturing sector's share in the economy.

The service sector has been a major beneficiary of the economic reforms, with double-digit growth seen in areas such as banking, finance, business process outsourcing, and information technology services. The service sector has become a significant contributor to India's GDP and has been a driver of employment and economic growth.

Additionally, the food processing industry has emerged as a high-growth and high-profit sector, with the government's Make in India initiative targeting it for development. The availability of raw materials, supportive regulatory measures, and incentives has made India an attractive market for the food processing industry.

However, it's important to note that India still faces challenges such as income disparity, variations in exchange rates, and ranking lower on global competitiveness and ease of doing business indices. Continued efforts in policy reforms, infrastructure development, skill enhancement, and inclusive growth strategies will be crucial for sustaining and further enhancing the performance of these sectors in the Indian economy.

Description of the Topic

India's journey towards economic growth and development has been marked by various challenges and milestones. At the time of independence, the country faced the daunting task of organizing its economy, which had been under colonial rule for a long time. Low literacy rates, limited life expectancy, and a lack of industrial and agricultural development were some of the challenges that the newly independent government had to address.

Over the years, India has made significant progress in its economic growth and development. In recent times, despite the impact of the COVID-19 pandemic, India has shown resilience and has emerged as one of the fastest-growing major economies in the world.

Yes, the first quarter of FY 2022-23 witnessed a strong recovery in India's real GDP compared to the corresponding period in 2019-20, indicating a

positive momentum in the economy. The COVID-19 pandemic had adversely impacted the global economy, including India, leading to a contraction in GDP in FY 2020-21. However, with the gradual easing of restrictions and the implementation of various measures to support economic recovery, India has been witnessing a rebound in economic activity.

The 4% higher real GDP in the first quarter of FY 2022-23 compared to 20/9-20 reflects a recovery in economic output across various sectors. This recovery can be attributed to factors such as pent-up demand, improving consumer sentiment, and policy interventions aimed at boosting economic activity. Sectors like manufacturing, services, and agriculture have shown signs of improvement, supported by increased vaccination coverage, higher mobility, and favorable global economic conditions.

It is important to note that while the recovery is encouraging, challenges and risks still persist, including the possibility of new waves of the pandemic, supply chain disruptions, inflationary pressures, and structural issues. Continued policy measures, reforms, and targeted interventions will be crucial to sustain and strengthen the recovery process, ensure inclusive growth, and address any potential setbacks in the coming quarters.

The services sector, including areas such as banking, finance, business process outsourcing, and information technology services, has been a key driver of India's economic growth. Additionally, the food processing industry has emerged as a high-growth sector due to the availability of raw materials, supportive regulatory measures, and incentives. The manufacturing sector, supported by government initiatives such as Make in India, has also been contributing significantly to India's GDP, and there are expectations of further growth in the future.

The government's focus on capital spending, infrastructure development, and asset-building projects is expected to boost growth multipliers and drive economic growth in the medium term. The revival of the agricultural sector, supported by factors such as monsoon and Kharif sowing, is also expected to contribute to India's economic momentum.

India's robust democracy and strong partnerships are seen as key factors that will support its economic growth and development in the coming years. With its large and diverse population, India has the potential to become one of the top three economic powers in the world in the next 10-15 years. However, challenges such as income disparity, poverty, and social inequality remain areas of concern that need to be addressed to ensure inclusive and sustainable economic growth in the long term.

Recent Developments

Indeed, India's economy is primarily driven by domestic demand, with consumption and investments contributing significantly to economic activity. In recent years, the country has witnessed several developments and reforms aimed at promoting economic growth and addressing various challenges.

One significant reform is the implementation of the Goods and Services Tax (GST), which has simplified the tax structure and streamlined the indirect tax regime in India. This has helped in reducing tax complexities, improving ease of doing business, and promoting a common market across states, thereby boosting trade and investment.

Another important development is the enactment of the Insolvency and Bankruptcy Code (IBC), which has reformed the bankruptcy and insolvency framework in India. The IBC has facilitated a faster resolution of stressed assets, improved creditor rights, and encouraged entrepreneurship and investment in the country.

Initiatives like Startup India and Digital India have also been launched to promote entrepreneurship, innovation, and digitalization across sectors. These initiatives have helped in creating a favorable environment for startups, promoting technology adoption, and driving digital inclusion, which are crucial for India's economic growth in the digital age.

These reforms, along with other measures to improve fiscal and external balances, have helped in stabilizing India's macroeconomic conditions. Inflation has been declining, fiscal discipline has been strengthened, and external balances have improved, which has contributed to India's reputation as one of the fastest-growing major economies in the world.

Moreover, a key aspect for India's economic growth and development is the synergy between the central and state governments. Cooperative federalism, where the central and state governments work together in a coordinated manner, is crucial to ensure good governance and optimize the potential of the economy. This collaborative approach has led to the successful implementation of various reforms and initiatives in recent years, positioning India as a competitive player in the international market.

However, it is important to note that challenges remain, and efforts need to continue in order to sustain and enhance India's economic growth. Lowering inequality, promoting inclusive growth, addressing social and environmental concerns, and addressing issues related to infrastructure, education, and healthcare are some of the areas that require continued attention to ensure sustainable and inclusive economic development in India.

Future of Indian Economy

India has set ambitious goals to achieve a \$5 trillion economy by 2030 and maintain a consistent growth rate of 8% per year. The “Strategy for New India @75” document, released by NITI Aayog, outlines key objectives to drive economic growth and development in various sectors.

The objectives mentioned in the document are focused on several key areas:

Doubling farmers’ incomes: This objective aims to enhance the economic well-being of farmers in India by increasing their income through various means, such as improving agricultural productivity, promoting agri-business, enhancing market access, and ensuring fair prices for agricultural produce.

Creating a talent pool for the entire country through initiatives like the All-India Services: This objective emphasizes the need to build a skilled workforce by promoting initiatives like the All-India Services, which aim to recruit and train professionals who can serve in different parts of the country and contribute to its overall development.

Boosting the “Make in India” campaign to promote manufacturing: This objective focuses on promoting domestic manufacturing in India by encouraging investments, simplifying regulations, improving infrastructure, and fostering innovation in order to make India a global manufacturing hub and create job opportunities.

Increasing the tax-to-GDP ratio to 22% by 2023: This objective aims to increase the government’s revenue collection through taxes by improving tax compliance, broadening the tax base, and implementing tax reforms, in order to finance various developmental programs and initiatives.

Achieving an investment rate of 36% by 2023: This objective seeks to increase the level of investment in the economy, including both domestic and foreign investment, to stimulate economic growth, create jobs, and foster development in various sectors of the economy.

These objectives reflect the government’s priorities in areas such as agriculture, human resource development, manufacturing, revenue mobilization, and investment promotion, with the overall goal of achieving sustainable economic growth and development in India.

India’s economic growth has been notable in recent years, with a growing middle class and youth demographic providing opportunities for businesses. The country has also been actively engaging with its trading partners, with the United States, China, United Arab Emirates (UAE), Saudi

Arabia, and Russia being among the top trading partners in 2022. Foreign direct investment (FDI) has been an important driver of India's economic growth, with significant inflows in sectors such as services, computer industry, and telecom industry.

India has also been actively engaged in negotiating and implementing free trade agreements (FTAs) with several nations and regional blocs, including ASEAN, SAFTA, Mercosur, South Korea, Japan, Australia, UAE, and others. These FTAs are aimed at boosting trade and investment flows, promoting economic cooperation, and enhancing India's competitiveness in the global market.

Achieving the goals outlined in the "Strategy for New India @75" will require concerted efforts from the government, businesses, and other stakeholders. Continued policy reforms, investments in infrastructure, skill development, innovation, and inclusive growth strategies will be crucial to realize India's vision of becoming a \$5 trillion economy by 2030 and achieving sustainable economic growth in the long term.

Review of Literature

The 'MSP AND FARMERS INCOME TRANSFORMATION UNDER MODY GOVT.' by Ramesh Chand discusses the impact of the Modi government's policies on the development of agriculture and farmers' income in India. The author's objective is to analyse the transformation in the agriculture sector under the current government and its effect on the rural economy. The article draws upon secondary data from various sources, including the NITI Aayog and Agmarketnet, to assess the status of procurement of different crops and the implementation of Minimum Support Price (MSP) in rural areas. The author emphasizes the importance of MSP in ensuring a stable income for farmers and the need for its effective implementation.

"Changes in Rural Economy in India" by Ramesh Chand, SK Srivastava, and Jaspal Singh explores the changing contribution of the rural economy in India using secondary data sources such as the National Domestic Product (NDP) and NITI Aayog. The authors examine the rural-urban disparity in worker productivity and discuss how the rural economy has undergone significant changes over the years, with a shift towards non-farm activities and the emergence of new economic opportunities in rural areas. The article provides insights into the changing dynamics of the Indian economy and the role of the rural sector in driving growth and development.

“Study of Retailing in India: Growth and Challenges” by Supriya Uday Kumar and Dr. CS Dalvi the Indian retail market is one of the top 5 retail markets in the world. The paper is based on secondary data and focuses on the growth and challenges of the retail industry in India. The authors discuss the future perspectives of the industry and identify the challenges that the industry is facing.

“Indian Startup: Issue, Challenges and Opportunity” by Dr. Gopaldas Pawan Kumar the objective of starting a business in this sector is not only to be one’s own boss but also to create employment opportunities for others. Despite its potential for growth and success, the industry faces various obstacles and difficulties that must be addressed. According to secondary data from sources such as The Times of India, startups in India face numerous issues, including a lack of funding, inadequate infrastructure, and regulatory hurdles.

“Growth of E-Commerce in India” by Dr. Kishore Kumar Das and Affreen Ara the growth of e-commerce in India has been fueled by various factors, such as increasing internet penetration, the rise of the middle class, and the growth of the smartphone market. According to secondary data from articles, journals, reports, papers, blogs, and conferences, internet connectivity has become a basic obligation not only in urban cities but also in rural areas. This has led to a significant increase in the number of people accessing the internet, which has in turn contributed to the growth of the e-commerce sector.

“Impact of COVID-19 Pandemic on the Indian Economy: A Critical Analysis” by R. Ramakumar and Tejal Kanitkar the COVID-19 pandemic had a significant negative impact on the Indian economy. The authors analyzed secondary data from the Asian Development Bank (ADB) in 2020 to estimate India’s Gross Domestic Product (GDP) during the pandemic. They found that the Indian economy experienced a slowdown in economic growth and record increases in employment and poverty rates. Overall, the COVID-19 pandemic caused a significant contraction in economic activity, particularly in sectors such as manufacturing, construction, and services. The authors also noted that the government’s initial response to the pandemic, including the strict nationwide lockdown, had significant social and economic costs for vulnerable populations.

“Study of Recent Trends in Indian Economy System” by Dr. Vinay Kant and Ms. Himani Goswami the study revealed that the forecasts at that time indicated a high likelihood of India sustaining 9.0% growth during the current decade. This was considered a positive outlook for the Indian economy and

could potentially have significant implications for the country's economic development and growth. However, it is important to note that the study's findings were based on data from several years ago, and the current state of the Indian economy may be different.

"Oil Price and Economic Growth: The Case of Indian Economy" by Tarek Tawfik Alkhateeb and Zafar Sultan analyzes the relationship between oil prices and economic growth in India using secondary data. The study found that the coefficient of oil price is negative and significant, indicating that when oil prices increase in India, it has a negative impact on the country's economic growth. This suggests that India, being a net importer of oil, is vulnerable to the fluctuations in global oil prices, which can have significant implications for its economy.

"The Effect of Trade Liberalization, Investment, Expenditure and Oil Price on The Economic Growth of Cote D'ivoire" by Adel Shakeeb Mohsen the study used secondary data, including energy reports and newspapers, to develop an economic growth model and test its effects. The findings of the study suggest that there is a long-run relationship among the variables, and economic growth is positively related to trade openness, investment, and expenditure. However, it is negatively related to oil prices. These results indicate that policies promoting trade liberalization and increased investment and expenditure may lead to higher economic growth in Cote d'Ivoire. On the other hand, high oil prices may have an adverse effect on economic growth in the country.

"Fiscal Policy in The COVID-19 Era" by Chris Murphy the author analyzed the impact of the COVID-19 recession and the government's fiscal policy response. The analysis was conducted using a macro-econometric model and secondary data. The paper provides valuable insights into the role of fiscal policy in mitigating the economic impact of pandemics. Its conclusions suggest that policymakers should be cautious in their approach to government spending during pandemics, carefully balancing the need for support with the risk of creating unintended consequences.

"Pandemic Crisis, Contact Intensity and Gender Disparity in Developing Countries" by Rohan Kanti Khan, Sushobhan Mahata and Rajanendra Narayan Nag The economic impact of the pandemic crisis in developing countries has been substantial, and the imposition of lockdowns has led to a range of challenges. One of the most significant challenges has been the disruption to supply chains, which has had negative consequences for businesses and workers alike. In addition, physical restrictions on labour gatherings have also had an impact, particularly for industries that rely on a high degree of

human interaction, such as retail and hospitality. Furthermore, the pandemic has led to an adverse demand shock, with many consumers cutting back on spending due to economic uncertainty. This has had a particularly severe impact on low-skilled workers, who are more likely to be employed in sectors that are vulnerable to changes in consumer spending patterns. At the same time, the demand for high-skilled capital-intensive products has increased, exacerbating existing inequalities between high-skilled and low-skilled workers.

“Econometric Forecasting of Tourist Arrivals Using Bayesian Structural Time-Series” by Antony Andrews and Sean Kimpton the Bayesian structural time series (BSTS) has been identified as a potentially effective tool for forecasting tourist arrivals in the tourism industry. The study used secondary data to compare the performance of the BSTS model with two other competing models. The results of the study revealed that the BSTS model outperformed the other two models in both the validation and test stages of forecasting.

“The Pattern and Causes of Economic Growth in India” by Kaushik Basu and Annemie Maertens The study draws upon secondary data sources from the Reserve Bank of India and the World Bank. The authors analyze the relationship between labor market regulation and economic growth performance in the Indian economy. They argue that labor market regulations in India have been a significant contributor to the relatively slow growth in the country. Specifically, they suggest that labor market rigidities and restrictions on employment have limited job creation, innovation, and productivity growth in the Indian economy. Economy and measures taken to strengthen its financial system. The authors note that India has experienced rapid economic growth in recent years, driven by its large and growing population, strong domestic demand, and a growing service sector. However, the COVID-19 pandemic has significantly impacted the Indian economy, leading to a sharp contraction in economic activity and rising unemployment. To mitigate the impact of the pandemic, the Indian government has implemented various fiscal and monetary policy measures, including stimulus packages and interest rate cuts.

“Income Inequality and Intergenerational Mobility in India” by Anuradha Singh the study uses secondary data to investigate the extent of income mobility across generations and how it is related to income inequality in the country. The paper highlights that India has relatively low-income mobility, with individuals born into poor families tending to remain poor and those born into wealthy families tending to stay wealthy. Moreover, the

country experiences high levels of income inequality. The study finds that the relationship between income inequality and intergenerational mobility in India is both negative and positive. On the one hand, greater income inequality tends to lead to lower intergenerational mobility, making it harder for individuals to move up the income ladder. On the other hand, higher levels of intergenerational mobility can also increase income inequality by reducing the role of family background in determining an individual's economic status.

“Evaluating The Reasons for India's Withdrawal from Rcep: A General Equilibrium Analysis” by Sachin Kumar Sharma, Adeet Dobhal, Raihan Akhter and G. Badri Narayanan the study provides valuable insights into the reasons behind India's withdrawal from the RCEP and the potential implications of this decision. The authors' analysis of the costs and benefits of signing the agreement, as well as the concerns expressed by India, can inform future policy discussions on trade liberalization and regional economic integration in the region.

“Is The Global Economy Deglobalizing? And if so, why? And What Is Next?” by Pinelopi K. Goldberg and Tristan Reed the authors analyze recent trade policy changes and measures of trade volatility, drawing upon secondary data sources. The study finds that while there have been some recent policy changes that may be indicative of deglobalization, such as the increase in trade barriers and protectionist policies, the global economy as a whole has remained relatively resilient during the pandemic. The authors argue that international trade has played a crucial role in maintaining global supply chains and preventing more severe supply shortages.

“A Study on Globalization & Its Impact on Indian Economy” by Pramod Kumar Patjoshi the study provides valuable insights into the complex relationship between globalization and the Indian economy, highlighting both the opportunities and challenges that arise from increased trade and investment. The findings can inform future policy discussions on how best to promote sustainable economic growth and development in India in the context of globalization.

“A Study on Destinations of FDI And Pattern of Utilisation in India” by Sushanta Kumar Tarai, Kabita Kumari Sahu and Sudhakar Patra The study aims to empirically examine the allocation of FDI into select sectors in India, drawing upon secondary data sources such as the Reserve Bank of India (RBI), the Department for Promotion of Industry and Internal Trade (DPII), and the Government of India-FDI. The study emphasizes

the importance of policies that can promote a more even distribution of FDI across Indian states, including measures to improve infrastructure and enhance the business environment. The findings can inform future policy discussions on how best to attract and utilize FDI in India to promote sustainable economic growth and development while minimizing regional disparities.

“The Impacts of Financial Services On “Make in India Campaign” by Atul Vijay Bhawe the study aimed to examine the impacts of financial services on the “Make in India” campaign, which is a government initiative to promote manufacturing in India. The study used both primary and secondary data, and employed a descriptive and exploratory research method. The sources of secondary data included journals and the Make in India website. The study found that efficient and dynamic financial services have a positive relationship with the development of the manufacturing sector in India and the overall Indian economy.

“Carbon Footprint in Steel/Iron Industry: Hurdles and Options to Mitigate the Case” by Aditya Newalkar, Dr. Jugal Kishore Das and Dr. Ramdas Pophale The study examines various technologies and options that can be used to deal with the decarbonization trail and provides an overview of respective technologies. The study is based on secondary data, including journals and articles. The authors highlight the need for carbon neutrality in the steel/iron industry and portray the future research possibilities towards achieving this mission. The study provides insights into the challenges faced by the industry in reducing its carbon footprint and presents potential solutions to address this issue.

“Real-Time Monitoring of The Indian Economy” by Anupam Prakash the article highlights the need for up-to-date data to accurately understand the current state of the economy and make informed decisions. It draws on secondary data sources such as articles and reports from the RBI to discuss the impact of recent events such as the Covid-19 pandemic and the Ukraine war on economic activity in India. The article notes that real-time monitoring tools such as the RBI’s “nowcasting” model, which uses a wide range of high-frequency indicators to predict economic activity in real-time, can provide policymakers with critical information needed to make timely decisions. Overall, the article emphasizes the importance of real-time monitoring in the current economic climate and encourages policymakers to utilize these tools to gain a more accurate understanding of the Indian economy.

“Fraudulent Risks Posed to The Economic System by Shell Companies” by Sagar Chaturvedi discusses the concept of shell companies and their potential impact on the Indian economy. It examines how shell companies can be used for fraudulent purposes and explores the effects of exposure to shell companies on the economy. The study relies on secondary data sources such as articles and journals to analyze the issue. The Securities and Exchange Board of India (SEBI) has taken measures to protect the investment interests of the general public by ordering indices to restrict trading on found listed securities and directing them directly to stage IV of GSM. This ensures that found securities do not negatively impact the market.

“Analysis Of GST Impact on Indian Economy After 5 Years of Its Implementation” by Rakesh Kumar the study is based on the concept of “one nation, one tax” and uses secondary data sources such as published papers, books, websites, newspapers, and theses. The article highlights that the implementation of GST has brought about transparency in the tax system and reduced compliance burden. The online platform GSTIN has also been instrumental in operating the machinery in a smooth manner. Overall, the study suggests that GST has had a positive impact on the Indian economy.

“The Challenges of Sustainable Economic Growth in India” by Pooja Singh the study aimed to examine the impact of economic problems on the growth rates of India. The findings suggest that sustainable economic growth requires the execution of a suitable economic policy rather than being a natural process. The study highlights the need for a comprehensive approach to address the challenges of sustainable economic growth in India.

“The Role of Public Sectors in Developing India” by Sri Lakshmi The study analyzes the establishment of PSUs, their role in society, the problems they face, and the reforms undertaken by the government in this sector and argues that public sector enterprises are essential for the development of India, given the country’s existing socio-economic structure. Without these enterprises, the Indian economy could lose its vitality.

“An Analytical Study of Concept of Bad Bank in Indian Concept” by Lakshkaushik Dattatraya Puri the study analyzed the relevance of Bad Bank in India and speculated on the potential impact after its implementation. The study relied on secondary data sources, such as RBI publications, to gather information on the Bad Bank concept and found that Bad Bank is a business structure that separates banks’ problematic assets into a separate firm.

“Impact of RBI Monetary Policy on Indian Economy with Special Reference to COVID-19 Period” by S. Chandra Sekhar and Dr K. Sreenivasa Murthy the research analyzes the reforms and developments in the Indian banking system, taking into account secondary data sources such as the RBI and the Economic Times. The study highlights the proposed Fiscal Responsibility and Budget Management Legislation and the need for greater operational flexibility to the Reserve Bank. Additionally, the Union Budget 2000-0/ is discussed as a potential framework for monetary policy in India. The research concludes that the COVID-19 pandemic has made the need for effective monetary policy more pressing than ever before. The study sheds light on the complexities of the Indian economy and its monetary policy, as well as the role of the Reserve Bank in the country’s economic development.

Objectives

- To study about rising economy of India
- vTo analyze about Rupee Internationalization in Forex Market

Research Methodology

This study is completely based on Secondary data collected from many different sources as-Recent news from RBI, World Trade Organization, Articles Research Paper, Newspaper, Conferences, SEBI and other.

Analysis, Findings and Interpretation

The economy of India is diverse and can be classified into three main sectors: agriculture, industry, and services. Agriculture includes activities such as crop production, animal husbandry, forestry, and fishing. The industry sector includes manufacturing sub-sectors, while the services sector encompasses a wide range of activities including construction, retail, software, IT, communications, hospitality, education, healthcare, banking, and insurance, among others.

Historically, India has had a significant agricultural sector, with a large proportion of its population engaged in farming and related activities. However, over time, the share of agriculture in India’s GDP has decreased, while the contribution of industry and services sectors has increased. Currently, nearly 70% of India’s GDP is driven by domestic consumption, with the services sector being a major contributor to economic growth.

The COVID-19 pandemic had a significant impact on India's economy, leading to a contraction in GDP in FY21. However, there has been a gradual recovery, with the economy growing by 13.5% in the first quarter of financial year 2022-2023. India remains one of the world's largest consumer markets and has seen efforts to promote social and infrastructure equity, as well as measures to address credit access weaknesses and boost private consumption. The government's initiatives, such as the "Make in India" campaign, aim to promote manufacturing and exports to further stimulate economic growth and development in the country.

Agriculture Sector:

Agriculture is a vital sector in India, contributing significantly to the country's economy and providing employment to a large percentage of its population. India's diverse agricultural landscape, favorable climatic conditions, and abundant natural resources have made it one of the major players in the global agriculture sector.

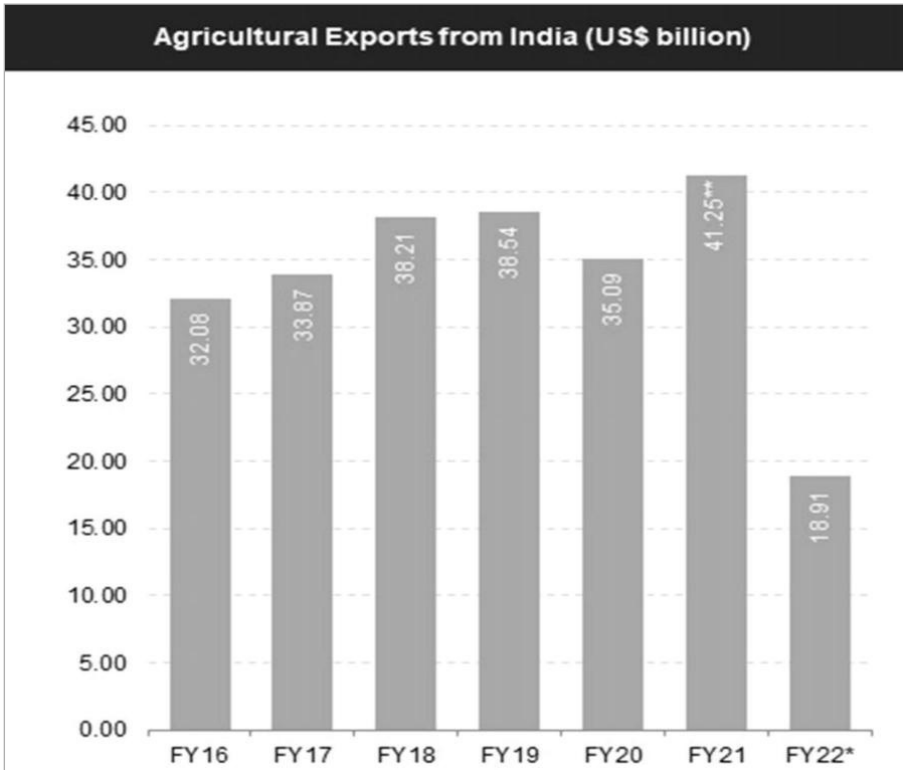
India's agricultural production is vast and varied, ranging from crops like wheat, rice, cotton, pulses, and spices, to fruits, vegetables, tea, and farmed fish. The country is also the largest producer of milk and has the world's largest cattle herd. The agriculture sector in India is not only crucial for domestic food security but also plays a significant role in exports, contributing to the country's foreign exchange earnings.

The Indian food and grocery market is the world's sixth-largest, with retail accounting for a substantial portion of sales. The increasing population, rising income levels, and changing consumption patterns are driving the demand for agricultural products in India. Moreover, the adoption of modern technologies such as blockchain, artificial intelligence (AI), geographic information systems (GIS), drones, and remote sensing technologies are transforming the agricultural landscape in India, improving productivity, efficiency, and sustainability.

E-farming applications are also gaining momentum in India, providing farmers with access to information on weather, market prices, and best agricultural practices, among other things. These digital solutions are empowering farmers and helping them make informed decisions, leading to better yields and increased incomes.

Overall, the agriculture sector in India is a critical component of the country's economy, providing livelihoods to millions of farmers and contributing to food security and economic growth. The adoption of modern

technologies and digital solutions in agriculture is playing a crucial role in driving the sector's growth and improving the lives of farmers in India.



Source: <https://www.ibef.org/assets/images/charts/Agricultural.jpg>

The agriculture sector in India has witnessed significant growth in exports in recent years, contributing to the country's foreign exchange earnings. The export of various agricultural products, such as marine products, rice, buffalo meat, sugar, tea, and coffee, has been a key driver of India's agricultural trade.

Marine products, including fish and seafood, have been a major export from India, with exports reaching US\$ 7.77 billion in FY22. Rice, both Basmati and Non-Basmati, has also been a significant agricultural export, with exports valued at US\$ 6.98 billion in the same period. Buffalo meat, sugar, tea, and coffee are other important agricultural exports from India, contributing significantly to the country's export earnings.

These export figures highlight the global demand for Indian agricultural products and the competitiveness of India's agricultural exports in international

markets. It also reflects the efforts made by the Indian agricultural sector to meet international quality standards, improve production techniques, and explore new markets for agricultural products.

Agricultural exports play a crucial role in supporting the growth of the agricultural sector in India, providing opportunities for farmers to access international markets, diversify their income sources, and improve their livelihoods. The government of India has also been implementing various policies and initiatives to promote agricultural exports, such as providing financial incentives, improving infrastructure, and facilitating trade agreements with other countries, to further boost agricultural exports and enhance the competitiveness of Indian agricultural products in the global market.

Manufacturing and Industry Sector

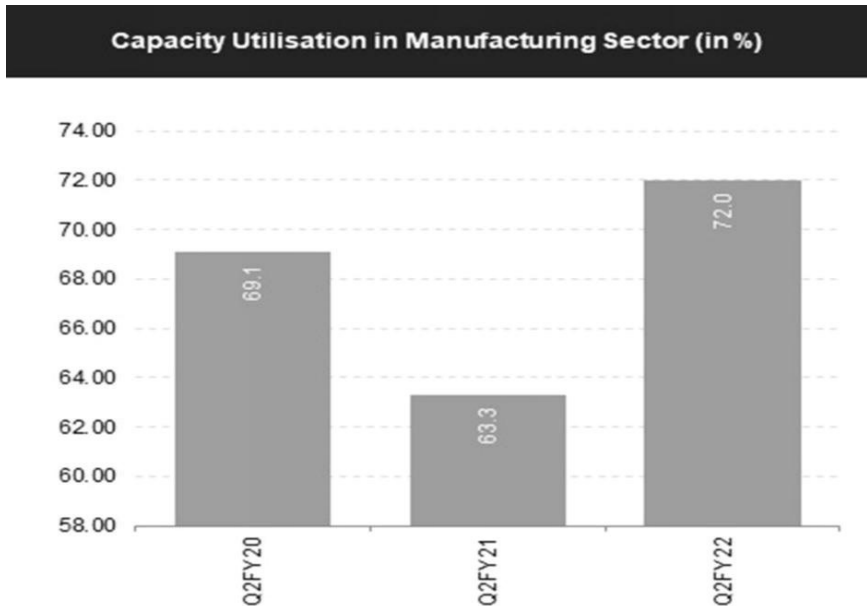
The manufacturing sector in India is a key contributor to the country's GDP, accounting for 26% of GDP and employing 22% of the total workforce. India's industrial manufacturing GDP output has been ranked as the 6th largest in the world on a current US dollar basis and 9th largest on an inflation-adjusted constant 2005 US dollar basis, according to the World Bank.

The manufacturing sector in India is diverse, covering various industries such as defense, electricity, engineering, gems and jewelry, infrastructure, petroleum products and chemicals, pharmaceuticals, textiles, pulp and paper, mining, iron and steel, and construction. The Indian government has launched the 'Make in India' program to promote manufacturing and position India as a global manufacturing hub, with the aim of creating 100 million new jobs in the sector by 2022.

The manufacturing sector in India has been gradually shifting towards more automated and process-driven manufacturing, leveraging technology and digital transformation to improve efficiency and boost production. Capacity utilization in India's manufacturing sector has shown significant recovery, with a capacity utilization rate of 72.0% in the second quarter of FY22, according to a survey conducted by Indian Business Organization FICCI.

The display panel market in India is also expected to grow significantly, with estimates indicating a growth from approximately US\$ 7 billion in 2021 to US\$ 15 billion in 2025. The manufacturing sector has been a key driver of economic growth and job creation in India, with its potential to

leverage India's advantages in terms of raw materials, industrial expertise, entrepreneurship, and market opportunities such as expanding exports, localizing imports, internal demand, and contract manufacturing.



Source: <https://www.ibef.org/assets/images/charts/manufacturing.jpg>

Service Sector

It is clear that the services sector in India has been a key driver of economic growth in recent years and is expected to continue to play a significant role in the country's development. The sector has shown impressive growth rates, with the IT and business services market projected to reach nearly US\$ 20 billion by 2025.

The government's initiatives such as smart cities, clean India, and digital India are creating an environment that is conducive to the growth of the services sector, providing opportunities for innovation and growth in various areas such as information technology, financial services, healthcare, education, and tourism.

The growth potential of the services sector in India is significant and presents an opportunity for not only India but also other nations to benefit from. The rising demand for services driven by a growing middle class, increasing urbanization, and changing consumption patterns is expected to continue to drive economic growth and job creation in the country.



Source: <https://www.ibef.org/assets/images/charts/services.ipg>

India's services sector encompasses a wide range of activities, including trade, hotels and restaurants, transportation, storage and communication, financing, insurance, real estate, business services, community, social and personal services, and services associated with construction. The government of India is taking significant efforts to enhance India's commercial services exports and increase its share in the global services market, which currently stands at 3.3%.

The government's initiatives aim to promote the services sector as a key driver of economic growth and leverage India's strengths in areas such as information technology, business process outsourcing, finance, healthcare, education, and tourism, among others. These efforts include policy reforms, infrastructure development, skill development, trade facilitation, and promoting innovation and entrepreneurship in the services sector.

Through various measures such as tax incentives, export promotion schemes, ease of doing business reforms, and trade promotion initiatives, the government is creating an enabling environment for the services

sector to flourish and expand its global footprint. These efforts are aimed at increasing India's share in the global services market, which has the potential to contribute to a multi-fold expansion in India's GDP and create significant employment opportunities.

The services sector has the potential to become a major source of export earnings for India, contributing to economic growth, foreign exchange reserves, and overall development. By leveraging India's competitive advantages in services, such as its skilled workforce, English language proficiency, and cost competitiveness, the government aims to enhance India's commercial services exports and boost its share in the global services market, which could have a positive impact on India's economy and position in the global market.

Currency

Year	INR₹ per US\$ (annual average)	INR₹ per Pound (annual average)
1985	12.364	—
1987	—	21.18
1990	17.4992	31.07
1995	32.4198	51.17
2000	44.9401	67.99
2005	44.1000	80.15
2010	45.7393	70.65
2015	64.05	98.0101
2016	67.09	90.72
2017	64.14	87.56
2018	69.71	98.51
2019	70.394	95.06
2020	72.97	100.05
2021	74.98	101.56

Source: Reserve Bank of India (rbi.org.in)

The Indian rupee (₹) is the official currency of India and is the only legal tender accepted for transactions within the country. The Indian rupee

is also accepted as legal tender in the neighboring countries of Nepal and Bhutan, both of which peg their currency to the Indian rupee.

Nepal and Bhutan have close economic and cultural ties with India, and the acceptance of Indian rupee as legal tender in these countries is a reflection of their economic and monetary relationship with India. In Nepal, the Indian rupee is widely used in border areas and is also accepted in many businesses due to the open border between Nepal and India, and the strong trade and tourism ties between the two countries. Similarly, in Bhutan, the Indian rupee is used alongside the Bhutanese ngultrum in day-to-day transactions, and the Bhutanese economy is closely linked with that of India.

The acceptance of the Indian rupee as legal tender in neighboring countries highlights the importance of India's currency in the region and the strong economic and monetary relations between India and its neighbors. It also facilitates trade, tourism, and economic activities between these countries, fostering closer economic integration and cooperation in the region.

An Opportunity Time for Rupee's Internationalization

The internationalization of the Indian rupee has been gaining momentum, with increasing trade and investment opportunities and growing demand for the rupee in global transactions. The Indian government, under the leadership of Prime Minister Narendra Modi, has taken steps to promote the internationalization of the rupee and enhance India's integration with the global economy.

The increase in foreign direct investment (FDI) during the Modi administration, as highlighted by Finance Minister Nirmala Sitharaman, indicates growing investor confidence in India's economy and potential for trade and investment.

The completion of the first trade settlement in rupees between India and Russia, as part of the International Settlement of Trade, and the consideration of bilateral trade settlement in Indian rupees by countries like Sri Lanka, Bangladesh, Mauritius, and others, further signify the growing acceptance of the rupee in international transactions.

The potential for Saudi Arabia and the UAE to start payment mechanisms in rupees, as you mentioned, could further boost the internationalization of the rupee and strengthen India's economic ties with these countries. The participation of other countries like Tajikistan, Cuba, Luxembourg, Sudan, and others in Indian rupee settlement mechanisms is also indicative of the increasing demand for the rupee in the international forex market.

The internationalization of the Indian rupee is expected to bring several benefits, including greater trade and investment opportunities, increased stability and predictability of the rupee, and enhanced integration of India's economy with the global economy. However, it would also require changes in regulations and regulatory outlook to support the growing demand for the rupee and facilitate its global transactions.

Overall, the internationalization of the Indian rupee is a positive development that reflects India's growing economic prominence and its potential to play a larger role in global trade and finance.

The current time presents a significant opportunity for the internationalization of the Indian rupee. India's growing economy, increasing trade and investment ties with other countries, and the government's efforts to promote the rupee as an international currency have created favorable conditions for the rupee's global acceptance.

Economic growth: India has been one of the fastest-growing major economies in the world, with a strong GDP growth rate. This economic growth has increased India's significance in the global economy and has made the rupee an attractive currency for trade and investment. **Trade and investment opportunities:** India has been actively pursuing trade and investment opportunities with other countries, resulting in increased economic engagement with various regions, including Asia, Middle East, Africa, and Europe. This has led to a higher demand for the rupee in international transactions.

Government initiatives: The Indian government, under the leadership of Prime Minister Narendra Modi, has been taking proactive measures to promote the internationalization of the rupee. Initiatives such as the International Settlement of Trade, bilateral trade settlements in rupees, and other policy reforms have been aimed at facilitating the use of the rupee in global transactions.

Growing acceptance: The rupee has been gaining acceptance as a settlement currency in bilateral trade with countries like Russia, Sri Lanka, Bangladesh, Mauritius, and others. This growing acceptance reflects the increasing demand for the rupee in international trade and finance, creating an opportune time for its further internationalization.

Potential for regional trade: As neighboring countries like Nepal and Bhutan already accept the rupee as legal tender, there is a potential for increased regional trade and investment using the rupee as a common

currency. This can further facilitate the rupee's internationalization and strengthen economic ties with neighboring countries.

Increasing global recognition: The rupee has been gaining recognition in global forex markets, with more countries and institutions considering the rupee as a settlement currency. This increased recognition and acceptance in global markets indicate the growing demand for the rupee and present an opportunity for its internationalization.

In conclusion, the current time presents a favorable opportunity for the internationalization of the Indian rupee, driven by India's economic growth, trade and investment opportunities, government initiatives, growing acceptance, regional trade potential, and increasing global recognition. The internationalization of the rupee can bring several benefits to India, including enhanced trade and investment opportunities, increased stability and predictability of the rupee, and stronger integration with the global economy.

Conclusion, Recommendation and Annexure

An economy is a system that involves the production, consumption, and exchange of goods and services. It encompasses all economic activities, such as manufacturing, trade, investment, and consumption, that take place within a society or country. The allocation of resources within an economy is determined by various factors, including the availability of resources, technology, consumer demand, government policies, and market forces such as supply and demand. The study of economies and how they function is known as economics.

India has become one of the fastest-growing major economies in the world and is currently ranked as the fifth largest economy by nominal GDP and third largest by purchasing power parity. This growth has been driven by several factors, including a large and growing workforce, a dynamic private sector, and a range of economic reforms implemented over the past few years.

Fluctuations in the exchange rate of the Indian rupee against the US dollar can have a significant impact on India's nominal GDP. This is because nominal GDP is calculated based on the value of goods and services produced in a particular year, and this value is often expressed in the local currency (in India's case, the Indian rupee). If the exchange rate between the Indian rupee and the US dollar changes significantly, it can affect the value of India's GDP when expressed in US dollars. For instance, if the Indian rupee

depreciates against the US dollar, the nominal GDP in US dollar terms would decrease, even if the actual value of goods and services produced remains the same. This is one of the reasons why many economists use purchasing power parity (PPP) when comparing the size of different economies, as PPP takes into account the relative cost of living and inflation rates in different countries, rather than just relying on exchange rates.

India has the world's second-largest labor force, after China. The labor force in India comprises a significant portion of the country's population, with more than 500 million people working in various sectors of the economy. India's economy has been growing rapidly in recent years, and some of the top-performing sectors of the economy include: Agriculture sector, Industry and manufacturing sector, Service sector. Overall, India's economy is characterized by a significant amount of diversity, with a mix of traditional and modern sectors contributing to its growth.

While India did experience a strong rebound from the economic shocks of the COVID-19 pandemic, the country's economy did not grow by 13.5% in FY2022. In fact, the official estimate for India's GDP growth rate for FY2022 is 9.2%, according to the Reserve Bank of India (RBI). Nonetheless, India's economic recovery has been remarkable, especially considering the scale of the pandemic and the lockdown measures that were imposed in the country. The government's efforts to revive the economy, including massive stimulus packages and structural reforms, have helped to boost business confidence and consumer demand.

Furthermore, India's vaccine manufacturing capabilities have been critical in supplying COVID-19 vaccines to other countries, thus bolstering the country's reputation as a major player in the global pharmaceutical industry. This has likely had a positive impact on India's economic growth, as well as its diplomatic relationships with other countries.

While India's economic growth is expected to continue in the coming years, there are still significant challenges facing the country, including high inflation, a large informal sector, and lingering effects of the pandemic. Nonetheless, India's economic resilience and potential continue to make it a promising destination for investors and businesses.

This trend towards increasing internationalization of the Indian rupee can have several benefits for the Indian economy. The use of the rupee for international trade settlements can lead to greater demand for the currency, which can increase its value and boost India's economic power. It can also

reduce the dependence on foreign currencies like the US dollar, which can help to insulate the Indian economy from currency fluctuations and other external shocks. In addition, increased trade and investment opportunities can lead to the creation of more jobs and income opportunities for Indian businesses and workers. This can contribute to greater economic growth, increased tax revenue, and improved living standards for the Indian population.

Overall, the increasing use of the Indian rupee in international trade and investment is a positive development for the Indian economy, and could help to cement India's position as a major player in the global economy.

Absolutely, the increasing participation of these countries in settling bilateral trades in Indian rupees reflects the growing confidence and trust in the Indian economy. This, in turn, can further increase the demand for the Indian rupee in international markets, leading to its greater acceptance as a major currency.

Moreover, this can also boost the internationalization of the Indian economy, thereby attracting more foreign investments and helping Indian businesses to expand their reach beyond the domestic market. All in all, the trend towards the internationalization of the Indian rupee signifies a positive development for the Indian economy, establishing it as a significant player in the global marketplace.

While the increasing participation of countries in settling bilateral trades in Indian rupees is certainly a positive development for the Indian economy, it is important to keep in mind that India still has a long way to go before it can overtake the largest economies of the world.

China, for instance, has a significantly larger economy than India and has already established its currency, the yuan, as a major player in the global forex market.

That being said, India has made significant strides in recent years, with its economy growing at a faster pace than many other major economies. The Indian government's policy initiatives such as "Make in India" and "Digital India" are aimed at boosting domestic production and attracting foreign investments, which could further propel the Indian economy forward.

Overall, while it may take some time for India to overtake the largest economies in terms of sheer size, the trends towards the internationalization of the Indian rupee and the country's growing participation in global trade are certainly positive indicators for the future economic growth and development of India.

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Rural People and Micro-Finance: A Case Study on Balipara Developmental Block Under Sonitpur District of Assam

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Abstract

Microfinance now a day's is a most powerful element for eradicating poverty and empowerment of poor and women. The main objectives of this exploratory study to ascertain the awareness level of microfinance and preference of sources of finance among the rural people of Balipara Developmental Block under Sonitpur district of Assam. For this purpose, the quantitative technique was adopted and structured questionnaire has been prepared to collect the data to understand their awareness level regarding microfinance. A total number of 100 rural people from Balipara Developmental Block was taken and the collected data was analyzed in SPSS, Chi-square test was considered to establish the relationship between the factors proposed in the framed hypothesis. The study shows that there is no association between gender and awareness level, and gender and preference of sources of finance among rural people of Balipara Developmental Block.

Keywords: *Microfinance, Rural people, Awareness level, Balipara Developmental Block, Sonitpur District.*

Introduction

The term “awareness” refers to knowledge or perception of a situation or facts and is intended and used to raise awareness of a certain issue or cause. A benefit of awareness is that it gives people the ability to see things more clearly and understand them better. As a result, decision-making abilities and critical thinking abilities are enhanced.

To reduce the gap and construct a bridge of financial services to the poor and needy people of the society, Prof. Md. Yunus formed Grameen Bank model in 1974 for the development of the people of Bangladesh. But the government accept this concept in 1983. Microfinance institutions are trying to improve the lives of individuals who aren't receiving enough to eat as well as those who can't stand up for themselves for the advancement of the country. Microfinance also acts as a preventative measure for women's empowerment.

In a world of microfinance, everyone, especially the poor and socially excluded persons and households have access to a wide range of affordable, high quality financial goods and services, including not just credit but also savings, insurance, payment services, and fund transfers. Most rural poor people who lack access to credit and cannot offer collateral security turn to microfinance for assistance. So, it is necessary to consider that the clients in this industry are the economically vulnerable, who comprise both the poor and the poorest of the poor. Awareness regarding microfinance of the rural people can help for better utilization of services provided by the microfinance institutions and making their way of living in a standard manner.

Literature Review

Roy (2014) states microfinance plays a vital role in rural development so awareness about microfinance in rural areas has its own importance in rural development. Micro finance loans are benefited to the small entrepreneurs to improve their standard of living.

Sondhi and Bala (2019) in their study threw the light to level of awareness and impacts of microfinance on women empowerment. Microfinance not only builds the confidence among the women but also improves the economic condition of the women.

Nimmi and Ramachandran (2021) examined the women empowerment in Palakkad district of Kerala who have availed the micro loan under microfinance scheme. The study revealed that majority of the women availed the loan for poultry farming business through the microfinance scheme. The study concluded that 62.5 percent of women were empowered through the microfinance schemes provided by MFI's.

Goel and Aggarwal (2020) conducted a study in selected districts in Uttar Pradesh to understand the perception of Micro Finance Institution's officials about the micro finance services. Micro Finance Institutions are providing financial services to the development and promotion of various

livelihood activities, enterprises which has useful in reducing poverty and empowerment of poor and women.

Kohli and Hagos (2020) in their study try to highlighted the women Self-Help Group members perception regarding services provided by microfinance institutions and the challenges faced by the women in Ethiopia. The women were not satisfied with the micro finance for not having easy access to loan at the required amount with lower interest rates. The MFI's capabilities must be enhanced the women empowerment.

Sajan (2021) conducted a study about awareness benefit, borrower perception and utilization of microfinance which revealed that people were aware about the concept of microfinance on poverty reduction, factors on access and terms of conditions. People's awareness and perception regarding microfinance are positively corelated with each other. The study also showed that age, education, occupation level of the borrowers is also positively co-related with each other.

Soloman and Sharma (2021) in their research work states that microfinance institutions has come forward to provide loan facility to women through microfinance self-help group. The study highlighted that there is a positive relationship in the economic and social empowerment of women with microfinance.

Sowmya and Reddy (2022) focused on the impact of microfinance on empowering the women workers and try to highlighted the problems or obstacles faced by the women workers for empowerment by utilization of microfinance services. A sample of 68 women workers working in SNIST was taking and linear regression method has been used for establishing the results of the proposed hypothesis. From the study it is resulted that being a part of the microfinance services, the women are slightly capable to achieving the empowerment in terms of economic and family.

Research Gap

In today's society, microfinance is the most powerful weapon to empower the rural poor and women. Various research paper has found regarding the microfinance and various researchers have discussed the perception about the microfinance services; some researchers have also discussed the challenges or obstacles faced by the beneficiaries of microfinance services. But no proper article or research paper has been found which dealt with the rural people awareness regarding microfinance services in Balipara Developmental Block. Keeping this research gap in mind the present study

is undertaken which shows the awareness and preference in sources of finance by the rural people of Balipara Developmental Block.

Statement of Problem

Now a days, economic development of India has been done through the empower of the women and rural poor. With the help of microfinance services available for the people can lead the economic progress of a country. Awareness about the microfinance is very essential for today's world to make a progressive society. So, the basic need for the present study to understand the rural people's awareness about microfinance and selection of sources of finance for themselves taking rural people as respondents and Balipara Developmental Block as a case.

Objectives of the Study

The major objectives of the present study are as follows –

- (i) To study the awareness level of the rural people of Balipara Developmental Block about micro finance interventions by banks.
- (ii) To check the preference about formal and informal source of finance among the rural people of Balipara Developmental Block.

Hypothesis of the Study

The hypothesis framed for the present study are –

H_1 1 - There is an association between gender and awareness level of microfinance among rural people of Balipara Developmental Block.

H_0 1 – There is no association between gender and awareness level of microfinance among rural people of Balipara Developmental Block.

H_1 2 - There is an association between gender and preference of sources of microfinance among rural people of Balipara Developmental Block.

H_0 2 – There is no association between gender and preference of sources of microfinance among rural people of Balipara Developmental Block.

Research Methodology

- **Research Design** – The study is mainly analytical and descriptive in nature.
- **Sample Definition** – The total sample has been taken for the study from Balipara Developmental Block. For selecting the respondents, probability random sampling technique is used. The target population

for the study is the rural people of Balipara Developmental Block. It is taking utmost care that both male and female respondents were taken for the purpose of the study.

- **Sources of data** – Both primary and secondary sources of data have been used for the purpose of the study. The secondary sources of collected from various articles, books, census report and various official websites. The primary sources of data have been collected through a proper schedule.
- **Universe of the study** – Rural people of Balipara Developmental Block is the universe of the study. The total rural population of Balipara Developmental Block is 2,33,920 which comprises the total universe of the present study.
- **Sample size** – For calculating the sample size various statistician gives various formulas. In this present study Taro Yamane formula is used to calculate the sample size.

$$\text{Formula – Sample size (n)} = \frac{N}{1 + N \times (e)^2}$$

Now using Taro Yamane formula at 10% margin of error ($e = 0.10$) the sample size is calculated for the study is 100.

- **Sampling technique** – The probability random sampling technique has been used for selecting the sample.

Data Analysis and Interpretation

Table – 1: Demographic profile of the respondents

Demographic Profile Variables	Factors	Frequency	Percentage
Gender	Male	62	62%
	Female	38	38%
	Total	100	100%
Age	20 to 24 years	12	12%
	25 to 29 years	10	10%
	30 to 34 years	49	49%
	More than 35 years	29	29%
	Total	100	100%
Marital status	Single	20	20%
	Married	72	72%
	Widow	8	8%
	Total	100	100%

Type of family	Joint	16	16%
	Nuclear	84	84%
	Total	100	100%
No of family members	Up to 2	21	21%
	2 to 5	61	61%
	More than 5	18	18%
	Total	100	100%
Educational qualifications	Illiterate	21	21%
	Metric	33	33%
	Higher Secondary	26	26%
	Graduation	13	13%
	Post-Graduation	7	7%
	Total	100	100%
Occupation	Agriculture/Poultry	37	37%
	Labour/Helper	10	10%
	Petty Venture	28	28%
	Employed	16	16%
	Unemployed	9	9%
	Total	100	100%
Monthly income	Less than 4,000	28	28%
	4,000 to 8,000	38	38%
	8,000 to 12,000	21	21%
	More than 12,000	13	13%
	Total	100	100%

Source – Primary data

From the table no 1, it is found that out of 100 respondents 62% were male and remaining 38% were female. It is seen that majority of the respondents i.e., 49% belongs to the age group of 30 years to 34 years, 72% respondents were married and 84% respondents lived in a nuclear family. Again, it can be seen from the study that majority of the respondents i.e., 33% respondents were metric passed, 37% respondents engaged in agriculture or poultry farming work and 38% respondents' monthly income lies between Rs 4,000 to Rs. 8,000.

Table – 2: Awareness about microfinance of rural people

Awareness about microfinance	Frequency	Percentage
Yes	73	73%
No	27	27%
Total	100	100%

Source – Primary data

From table 2, it can be seen that 73% people of the Balipara development block aware about the micro finance and 27% people of Balipara development block are not aware about the micro finance.

Table – 3: Number of rural people who have taken loan

Have you taken loan	Frequency	Percentage
Yes	82	82%
No	18	18%
Total	100	100%

Source – Primary data

From table 3, it is seen that out of 100 sample size 82 that is 82% rural people of Balipara development block have taken loan and remaining 18 that is 18% rural people of Balipara development block have not taken any kind of loan from anywhere.

Table – 4: Rural people preference between formal and informal source of finance

Source of finance	Frequency	Percentage
Formal source of finance	30	37%
Informal source of finance	52	63%
Total	82	100%

Source – Primary data

From table 4, it is clearly found that out of 100 rural people of Balipara development block only 82 people have taken loan and where 30 people choose formal source of finance and 52 people choose informal source of finance for their loan purpose.

Table – 5: Types of formal source of finance

Formal source of finance	Frequency	Percentage
NGOs/MFIs/SHGs	9	30%
Co-operative banks/ RRBs	8	27%
Commercial banks	13	43%
Total	30	100%

Source – Primary data

From table 5, it is seen that out of 30 rural people of Balipara development block 30% people choose NGOs/MFIs/SHGs, 27% people choose Co-operative banks/ RRBs and remaining 43% people choose commercial banks as their formal source of finance.

Table – 6: Types of informal source of finance

Informal source of finance	Frequency	Percentage
Relatives/ Friends	18	35%
Private money lenders	26	50%
Employer	8	15%
Total	52	100%

Source – Primary data

From table 6, it is seen that out of 52 rural people of Balipara development block 35% people choose relatives/friends, 50% people choose private money lenders and remaining 15% people choose employer as their informal source of finance.

Testing of Hypothesis

H_1 1 - There is an association between gender and awareness level of microfinance among rural people of Balipara Developmental Block.

H_0 1 – There is no association between gender and awareness level of microfinance among rural people of Balipara Developmental Block.

Awareness about microfinance of rural people * Gender of the respondents Crosstabulation					
			Gender of the respondents		Total
			Male	Female	
Awareness about microfinance of rural people	Yes	Count	44	29	73
		% within Awareness about microfinance of rural people	60.3%	39.7%	100.0%
		% within Gender of the respondents	71.0%	76.3%	73.0%
		% of Total	44.0%	29.0%	73.0%
	No	Count	18	9	27
		% within Awareness about microfinance of rural people	66.7%	33.3%	100.0%
		% within Gender of the respondents	29.0%	23.7%	27.0%
		% of Total	18.0%	9.0%	27.0%
Total	Count	62	38	100	
	% within Awareness about microfinance of rural people	62.0%	38.0%	100.0%	
	% within Gender of the respondents	100.0%	100.0%	100.0%	
	% of Total	62.0%	38.0%	100.0%	

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.342 ^a	1	.559		
Continuity Correction ^b	.124	1	.724		
Likelihood Ratio	.346	1	.556		
Fisher's Exact Test				.646	.365
Linear-by-Linear Association	.338	1	.561		
N of Valid Cases	100				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.26.					
b. Computed only for a 2x2 table					

Since, the P value (0.559) is more than the significance level i.e., 0.05 at 1 degree of freedom, so we can reject the alternative hypothesis and accept the null hypothesis. Hence, from the above analysis it can be concluded that there is no association between gender and awareness level of microfinance among rural people of Balipara Developmental Block.

H_1 2 - There is an association between gender and preference of sources of microfinance among rural people of Balipara Developmental Block.

H_0 2 – There is no association between gender and preference of sources of microfinance among rural people of Balipara Developmental Block.

Rural people preference between formal and informal source of finance * Gender of the respondents Crosstabulation					
			Gender of the respondents		Total
			Male	Female	
Rural people preference between formal and informal source of finance	Formal source of finance	Count	22	8	30
		% within Rural people preference between formal and informal source of finance	73.3%	26.7%	100.0%
		% within Gender of the respondents	43.1%	25.8%	36.6%
		% of Total	26.8%	9.8%	36.6%
	Informal source of finance	Count	29	23	52
		% within Rural people preference between formal and informal source of finance	55.8%	44.2%	100.0%
		% within Gender of the respondents	56.9%	74.2%	63.4%
		% of Total	35.4%	28.0%	63.4%

Total	Count	51	31	82
	% within Rural people preference between formal and informal source of finance	62.2%	37.8%	100.0%
	% within Gender of the respondents	100.0%	100.0%	100.0%
	% of Total	62.2%	37.8%	100.0%

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.496 ^a	1	.114		
Continuity Correction ^b	1.805	1	.179		
Likelihood Ratio	2.560	1	.110		
Fisher's Exact Test				.157	.089
Linear-by-Linear Association	2.466	1	.116		
N of Valid Cases	82				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.34.					
b. Computed only for a 2x2 table					

Since, the P value (0.114) is more than the significance level i.e., 0.05 at 1 degree of freedom, so we can reject the alternative hypothesis and accept the null hypothesis. Hence, from the above analysis it can be concluded that there is no association between gender and preference of sources of microfinance among rural people of Balipara Developmental Block.

Findings of the Study

The major findings of the present study are as follows –

- (i) 62 percentage of the respondents were male and remaining 38 percentage of the respondents were female among the selected respondents from the Balipara Developmental block.
- (ii) 73 percentage of the rural people from the Balipara Developmental Block were aware about the microfinance and rest of 27 percentage of the rural people are unaware about micro finance.
- (iii) 82 percentage of the rural people have taken loan for their own purpose and remaining 18 percentage of the people do not take any kind of loan from anywhere.
- (iv) 63 percentage of rural people have chosen informal sources of finance as compared to formal sources of finance for taking loans.

- (v) Formal sources of finance comprise of commercial banks, NGOs/ MFIs/SHGs and Co-operative banks/ RRBs, out of which maximum number of people (43 percentage) prefer commercial banks as formal source of finance.
- (vi) Informal sources of finance comprise of Relatives/ Friends, Private money lenders and Employer, out of which maximum number of people (50 percentage) prefer Private money lenders as informal source of finance.
- (vii) There is no association between gender and awareness level of microfinance among rural people of Balipara Developmental Block.
- (viii) There is no association between gender and preference of sources of microfinance among rural people of Balipara Developmental Block.

Limitations of the Study

- The study is limited to only the rural people of Balipara Developmental Block under Sonitpur district of Assam.
- The sample size of the study is limited to only 100 respondents.

Conclusion

Economic development is the utmost goal for every country. Microfinance is the way to achieve that goal. Microfinance provides high quality of financial goods and services to the everyone, especially for the poor and socially excluded persons and households. The present study shows the rural people awareness level towards microfinance and their preference about sources of finance. It is seems that majority of the rural people aware about the microfinance but when it comes to prefer about formal and informal sources of finance they select informal sources for taking loan. From the study it is concluded that proper awareness regarding microfinance is not completed yet in the Balipara Developmental Block and the gender is not associated with the preference about sources of finance and awareness about the microfinance among the rural people.

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Sustainable Development: A Spiritual Journey/Spiritual Correlates of Sustainable Development

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Abstract

Understanding the needs of future generations while addressing the needs of the present is referred to as sustainable development. Being spiritual involves seeking one's inner self and tranquility. The similarities between sustainable and spiritual growth may be due to the fact that both focus largely on expanding one's identity and fulfillment in oneself beyond their current boundaries. This basically implies that the person has to surpass the typical boundaries of "I, Me, Myself, and MY family" to make room for a wider viewpoint that includes concern and care for the welfare of the greater community, if not the entire planet. The purpose of this paper is to show how sustainability and spirituality are related. By employing spirituality as the covert compass in the quest for sustainability, the intention is to reveal the significant confluence between sustainability and spirituality. It was determined that emphasis should be placed on the impersonal and instrumental economic ideals that are essential for fostering environmental care.

Keywords: *Spirituality, Self-realization, Community well-being, Sustainability, environment.*

Introduction

Economic development is a broader concept that includes economic growth and economic welfare, (**Barbier, 1987**). To reach strong sustainability while not giving up qualitative life standards, not compromising pleasure and personal gratification is a crucial challenge for an individual today.

Sustainable development is about understanding the linkages between the economy and society. It aims at the development that does not exhaust the resources to be available for future generations to meet the needs of the present. The aim of sustainable development is to reach balance and peace with the natural environment at present, self-interested means of living in our society conflicts with goals of sustainable development. To achieve a sustainable future, it is essential to incorporate all three parameters i.e., social, economic and environmental considerations. Environmental ethics can be defined as a set of rules explaining how humans should keep conduct towards nature and its resources.

These norms reflect a moral attitude concerning what is viewed as good/ permissible or bad and sinful, (**Abumoghli & McCartney, 2020**). The possibility of needs” should be assessed given the progression of time and circumstances, the development of technologies and machinery, and exposure to attractive chances and possibilities. According to (Gupta & Agrawal, 2017) even though there is more material wealth, the sense of fulfilment and satisfaction does not seem to develop with increased access to more resources and technological advancements. Second, should predicting future needs take precedence over satisfying current needs? We still don’t fully understand how to understand and meet human needs, let alone how to do so, (**Armour, 2011**). (Whitmore John, 1997), in his effort to explain the process of self-development, recognized two elements in an individual’s personal enrichment: psychological and spiritual. Good job, family happiness are the aspects of the psychological dimension of personal growth and on the other hand spiritual dimension is steps in identifying the meaning of life, in attaining clear foresight, in the growth of qualities such as kindness, empathy, peacefulness, repose and, finally synchronization in all life. For those who find that the word ‘spiritual’ has heaped references, thus he recommended another term, i.e., ‘transpersonal dimension’, that means an individual’s ability to reach the next level and rise above the normal range persona. He has emphasized the reality that this facet has no relation with one’s belief in religion. It is an internal journey towards enlightenment and self-realization i.e., understanding the fact that one is not one’s personality but the sense of self as consciousness.

There is a need to understand the linkages between sustainability and spirituality then only, the changeover from unequal economic development is possible thereby emphasizing the development of inner core humanity that would lead to safeguarding our environment by maintaining the habit of sustainable consumption. For many people, these beliefs and ethics will be

obtained from or inspired largely by their faith. There exists a gathering of different spiritual traditions and religions throughout the world, reflecting the extremely distinct cultures of the world. Overall, roughly 85% of the global population relates to a religion or faith, with spiritual beliefs affecting people's worldviews and decisions, (Ives & Kidwell, 2019). When we talk about environmental spirituality it is based on an individual's acceptance of the holiness of nature and mother earth. The ultimate reality is not just that it is the cause of creation but is itself an integral part of the creation: maker and material both. After all the various agreements and conferences on sustainable and ecological development. There is still no considerable progress in attaining a sustainable environment. This negligence could be seen in the environmental crisis we are facing today. As we all are self-centered and seek happiness in achieving maximum profit. If we talk about happiness it is categorized into two aspects, which is worldly happiness and spiritual happiness. Worldly happiness we reach from the consumption of material goods and socialistic pleasures, on the other hand, spiritual happiness is derived from one's inner self and true self, where there is no selfishness and individuality. Therefore, it has become imperative to understand spirituality as of paramount importance for the conscious and sustainable development of the environment. Thus, this paper aims at exploring the relationship between spirituality and ecological impact, and ecological footprints. The goal is to expose the important intersection between sustainability and spirituality by using spirituality as the imperceptible guiding hand in the search for sustainability.

Literature Review

Understanding Spirituality

Spirituality is a word that is understood in a multiplicity of ways. One can define spirituality as, the force that moves us from behind or below or before. Spirituality inspires us, animates us, and motivates us. It is our choice and actions, it is where the spirit is given flesh, where intentions become actions. The term 'spirituality is often used in a broader sense and is defined more formally as, "Spirituality is a personal search for meaning and purpose in life, which can or cannot be related to religion" (Csutora & Zsóka, 2014). "It requires a relationship with self-chosen and religious philosophies, principles, and procedures that will add meaning to life, in that way people will be inspired and motivated to achieve their best possible side. This connection creates a chain of confidence, desire, peace, trust, and equality. The outcomes are joy, the absolution of oneself and others,

recognition and acceptance of hardship and mortality, a heightened sense of somatic and emotive well-being, and the ability to go beyond the ailments of reality (**Tanyi BSJ RN BSN MSN FNPCandidate, n.d.**)". Thus, one could say that having faith in environmental values, being passionate towards the caring environment and being proactive towards the environment is itself one aspect of spirituality, even if one does not preach supreme power.

Spirituality is also our relationship with the natural environment, our ecological footprints, with others and our unknown selves. If we define strong spirituality: an individual by decreasing the longing for consumption and following trends created by peers can reduce the impact on moderate ecological footprints. When an individual prefers living a life both full of purpose and meaning, they might not choose materialism over eternity, thus they might not wish the need to demonstrate their material need and desires to confirm their prestige and reputation. If one tries to explore the relationship between spirituality and ecological impact, it can be decided even indirectly. (**Csutora & Zsóka, 2012**), has advised that slight changes in our attitude will change our daily economic activities, and that will eventually lead us to a sustainable economic system where there is balanced growth, and all people have the means to pursue their true potential. As we move toward spiritual attainment, we become more calm, cheerful, caring, kind-hearted, considerate, and wiser individuals (**Berejnoi et al., 2019**). We eventually grow more forgiving and selfless as we strive for the welfare of all living things and the mother earth in which they are ensconced.

"A person's subjective relationship to what is unknowable about life and how they incorporate that relationship into their view on the universe, the world, others, themselves, moral principles, and their sense of purpose are referred to as their spirituality. Connectedness has been a major element of understanding spirituality. "Spirituality can be defined as a person's lifelong development of a sense of interconnectedness, meaning, peace, consciousness, and service." (**Gall et al., 2011**), in a content analysis of definitions of spirituality, found four components of spirituality: existential reality or meaning and way of being in life, transcendence, connection and unity, and the presence of a unifying force or vitality. According to the definitions given above, spirituality aids in moving a person's awakened consciousness from a personal to an interpersonal level. It is beneficial to re-establish contact with the bounty of nature to transcend selfish needs and connect with a sense of compassion and service for all living things, including other people, animals, birds, and inanimate objects. The wisdom of spirituality can help one realize the fundamental necessity of SD, which

calls for a conscious connection with all beings, living and non-living. It serves as a model for a balanced and fair style of growth. It helps to understand how developing enlightened sensibilities and attention for other living things contributes to the development of a sustainable way of life.

The main danger we face now is maintaining the harmony between our existence as material beings and as spiritual beings. What we might term it is “the rapprochement of spirituality and sustainable development. Thus, after following an extensive review on sustainable development and spirituality, this paper focuses on the conceptualization of sustainability and spirituality thereby proposing a conceptual framework for the journey to spiritual-sustainable development at the end of the paper.

Values and Ethics Underlying Sustainable Development

A matter of question since civilization is what impact demand for raw material has on the environment. As early as the ancient Egyptian and Roman civilizations have talked about environmental problems such as deforestation, sanitization, loss of soil fertility, etc. which we would term today as sustainability problems. Environmental concerns became more critical and deep-rooted when the Club of Rome began to work in 1968 and supported the concept of zero growth. Zero growth is a complex issue that is faced by all societies whether developed or developing. Broadly speaking, it represents present economic development as being contradictory with the long-term safeguard of the planet. Moreover, the concept of sustainable development was propounded by the United Nations conference held in Stockholm (Sweden) on the human environment in 1972. This conference was conducted in the scenario when there was a struggle between ecology and the economy.

In 1980, the International Union for the Conservation of Nature (IUCN) in collaboration with the Worldwide Fund (WWF) and United Nation Development Program (UNEP) published its world conservation policy that expected to advance sustainable development by categorizing important conservation questions and key policy decisions. It defines sustainable development as: “if we wish that economic development to be sustainable, it must take account of social and ecological factors of the living and non-living resource base; and the long-term as well as the short-term advantages and disadvantages of alternative action” (Kruja, 2013). Further, it is defined that if we speak broadly, sustainable development has three basic pillars as scientific realities and those are ecological balance, consensus on ethical principles and consideration of long-term interest of future

generations (**Lélé, 1991**). On ecological sustainability from an individual perspective, we have much to offer. To add on, it has been suggested that unity and completeness, the mindful and the spirit, the importance of a relationship with neighbors; harmony with the Earth, taking pleasure in working, mutual and determined living also forms the core of sustainable living. Yet, a significant disadvantage of the SD has been the inclination to prioritize short-term material rewards over the environment and natural resources. The need for a global conversation between the contributions of human values and economic behavior and systems is strengthened by the emphasis on ecologically sensitive development around the world.

Although, today people are becoming more aware and conscious which leads to, sustainable agriculture and sustainable living. In the contemporary era, sustainable development needs coordinated action by both economic and community specialists. Environmentalists persistently say that today our planet is frightening in the context of social justice, economic growth, or the environment around the globe. Although much effort has been laid, like the government aiming at low-carbon emissions, environment-friendly products, go green, but one major thing that is missing in every policy everywhere to achieve the objective of sustainable development is the ethical and spiritual aspects. Spirituality and sustainability go hand in hand, also spirituality can help more in sustainable economic development. Thus, here is the definition proposed which includes both sequential and spatial extents of sustainability: Sustainability is the capacity of any person in a society or nation to encounter their wants and be gratified in life without negotiating the capability of other individuals, societies, states, and future generations to meet their desires and live thankfully, thus aiming for strong sustainability application of linkages between sustainable development and spirituality.

When the two words ecology, meaning “Oikos,” in Greek, and religion in Latin “religion,” are combined, together they generate ecological ethics and integrity, which forms the base for sustainability. The idea of ecology and religion are the same, they seem to be flowing together in the same direction as the union of two rivers. In 2015, Hindu leaders published the *Bhumi Devi Ki Jai – A Hindu declaration on climate change*, starting with a famous quote from the Atharva Veda stating that “the Earth is my mother, and I am its creature” (**Hindu Declaration on Climate Change 2015**). This shows the intensity of people towards the earth and emphasis the truth, it is human behaviour that handles the planet how it is today and how it will be in future. These principles give substantial value to nature and the planet

that aims for encouraging a sustainable living style within the context of Hinduism. Jainism has a lot to support the development of sustainable lifestyles from a faith-based viewpoint. Jain laypersons, for example, are told to take part in activities that are not associated with devastation and damage to life and follow a vegetarian diet. Similarly, other religions like Buddhists and Muslims manifest the idea to care for the environment and sustainable development. Thus, in all the most crucial fundamental in the spiritual tradition of India is Dharma (moral duty) as, Indian sages preserve that one should fulfil one's needs (kama) or follow prosperity and security (artha) within the framework of dharma, which ensures the moral aspects of everyone, (Kuppuswamy, 1977). In Indian culture, dharma has several notations such as belief, sense of duty, integrity, inherent nature, celestial harmony, and civil disobedience. Moreover, Dharma is also defined as the unchanging nature of a thing which is essential since its formation from which it cannot deviate like there cannot be a star on a sunny morning. While we are discussing spirituality, dharma signifies behaviour which is in alignment with celestial harmony, making life and creation possible. Thus, whenever our daily life activities are in harmony and consensus with the natural law and order, they are spontaneously sustained. Alexander Pope was right: "He can't be wrong, whose life is in the right." The concept of "ecology" is following the SDGs of Agenda 2030 and should be incorporated into the higher education system, and more widely into the macro part of society.

Attaining Sustainable Development Through Self-Understanding and Self Awareness

In the modern era, today a major challenge to identify corridors for a sustainable future is now a major challenge. If we are not able to find the pathways to such then human predictions are miserable. We should be alert that our present alleyway is rapidly taking us towards catastrophe, which is unaltered. One of the famous works entitled "Ecology and the Bhagavad Gita, by Swami Dayananda Saraswati, who is a renowned Vedic scholar and educator, believes that the meaning of real ecology is to learn how to avoid stroking and hurting the environment. Today, spirituality is equally imperative to sustainable development as all global plans have emphasized, and after that, it is needed to move beyond simplifications so that we are able to explore the spiritual principles necessary for the development and at all stages of the growth process. Both religious and spiritual ethnicities have come together to support sociability, community, and companionship in diverse societies. Also, they are gradually working together on planning new policies, programs, with governments and nationwide institutions.

Thus, religious and spiritual values in the systems are considered not to be detached from “real-world concerns,” but as the paramount source of wisdom and inspiration, because without these values, it is not possible to achieve social interrelationship.

The journey to spiritual development starts to form, still being self-centered, where we value wealth, status, and success more than peace of mind, love, and emotional dealings. We aim at achieving higher ends in our life; therefore, we have fears, fear of failure, and fear of loss. To fight fear and uncertainty, we tend to practice many ‘spiritual’ actions like, as we pray to our chosen higher bodies, we perform myriad rituals to delight supreme power. We also give donations and charity with the hope that we get rewards. However, most of the individuals who have most of the above habits seem to be self-adjusted, but they all supply a good aim. That is, such practices persuade us to move towards the next level of our spiritual development as we learn to control ourselves and to keep our minds under self-control.

Then comes the realization, where we understand the prudence of our fear, we understand that it is our requirements, longing, our self-centeredness, and only me-first attitude, is the core reason for all the sorrows and sufferings we encounter in our life. Thus, to decrease our self-centeredness, wants, likings and greed we initiate practicing spiritual activities those being believed to be imperative by religions and spiritually high-minded people. Moreover, we can identify and experience that by thinking rationally and that following morality, ethics and human values aid us to inspire good qualities such as love, kindness, humanity, and tolerance which provide peace of mind to ourselves as well as to all others. We start meditating, not having a self-centered agenda in mind, but to calm our minds. Also, this way we can achieve some wisdom that enables us to see things as if they are not what we have perceived till now.

Lastly, we come to a stage that is beyond the reach of inevitable parameters of time and space for finding that our involvements go away from the ordinary aspects of equanimity. When we reach this level, we uplift ourselves above our ego, or what we call ‘false’ or ‘superficial’ self that has been constructed by our self-centered mind and aims to reach the higher self. When we are reaching this level of spirituality, we start exploring those capabilities of ourselves which were so far hidden and become completely grown human beings and start helping the whole of humanity. After reaching this level, we can get free from our ego, self-defensiveness, and self-centeredness, and in the absence of these ego boundaries, we tend to develop a relationship

with the natural environment and strive for creating a sustainable village around us. As people develop themselves spiritually, there is a transition from selfishness to selfless love and possess a lesser amount of greed. They also find another option for strong sustainable development, the spiritual path.

Linking Spirituality and Sustainable Development

Spirituality and sustainability are the results of two powerful ideas and two rivers of thought, which result in the conscious development of a sense of connectedness with nature and a sense of admiration for humanity. Incorporating the idea of sustainable lifestyles can be achieved by every individual in his/her daily life and actions, by proving the importance of faith-based aspects of life and living. People can be convinced to live their lives in a sustainable manner with the help of spreading education, creating awareness, and supplying partnerships and support. Spirituality is indispensable for sustainability because the questions of sustainability are eventually engrained in ethics, therefore, cannot be met by depending completely on economic incentives. An evolution from unfair economic development to sustainable development is not possible without valuing the essential relationship between sustainability and spirituality.

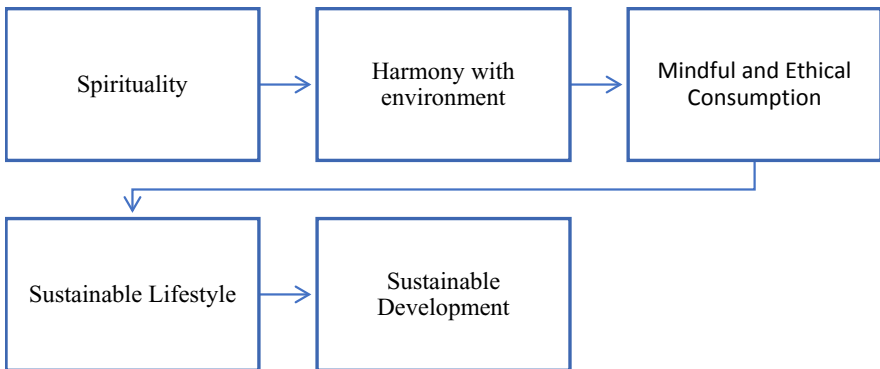


Figure 1: Depicts interplay between spirituality, its natural correlates, and sustainable development

To make sustainable development a success it has become imperative that the moral sides of an individual's life along with the momentum of relationships with others need to be well established, (**Whitmore John, 1997**). (**Kumar, 2017**), states that the development is based on the principles of spirituality like understanding (concern for what others feel), loving-kindness (removing other's suffering), bigheartedness), forgiveness, tolerance, understanding & wisdom, peace, creativity, non-greediness, sharing, cooperation, practicing ceiling of desires, non-violence, selfless

service to humanity, etc. will undoubtedly alleviate poverty & inequality, which is economically, socially and environmentally sustainable. It has also the potential to deliver long-term happiness or contentment thereby peace and prosperity to all (**Berejnoi et al., 2019**). As depicted by figure 1, spirituality encourages the individual to be aligned with the environment, engaging in mindful activities that are ethically informed. This behavior consciously and unconsciously contributes towards sustainable consumption. Thereby, beginning the cycle of a sustainable lifestyle.

Spirituality prevents us from controlling our selfishness for material well-being and sustainable development is possible when we use the resources for our needs and not for our greed as Mahatma Gandhi once said. As we develop ourselves spiritually, we turn out to be more cautious about things in the atmosphere we live in and that includes nature as well. We begin to enjoy the serenity of nature, understanding that it further helps us in safeguarding and protecting nature as much as possible by making a step head towards sustainable living. As a person progresses on the path of spirituality, his or her priorities in life also change. The focus of life shifts towards getting personal happiness through mental peace and less material needs and desires. A sense of ‘Vairagya’ or detachment comes and hence a person becomes less interested in materialistic life. This is the beginning of sustainable development since his or her needs are reduced. The same has been followed and implied by our great saints. Spirituality also helps us to live in harmony with each other and this enables everybody to work together for common good,

Climate Change has undoubtedly become the buzz word of the twenty-first century. Climate Change is defined by the Intergovernmental Panel on climate change (Intergovernmental Panel on Climate Change 2007) as “any change in *climate* over time, whether due to natural variability or as a result of human activity.” (**Oskamp, 2000**), reiterates that the most serious long-term threat facing the world is the danger that human actions are producing irreversible, harmful changes to the environmental conditions that support life on Earth. A logical (and optimistic) conclusion that follows from Oskamp’s statement is that if human actions handle disturbing the planetary ecosystems, then the solution also lies in correcting our collective actions. However, the pertinent point that we must take cognizance of is that climate change requires us to transform our consciousness at the deepest level. A shift in human consciousness is likely to fundamentally change the ways we live, work, and think about our relationship with each other and the huge diversity of other species in the world. Thus, the concept of

spiritualized sustainable development emphasizes setting up spirituality as reflected in thought, feeling, and action as the foundation of sustainable action and development.

Sustainable and spiritual development are two sides of the same coin, perhaps because both primarily involve an extension of self-identity and self-fulfillment beyond the present scope. This essentially means that the individual must step across the usual confines of “I, Me, Myself, and MY family” to accommodate a larger perspective that includes concern and care for the well-being of the larger community and even the whole world. The authors propose a conceptual framework that traces the path to spiritualized sustainable development. In the model, spiritual development is defined as a state of being that includes a heightened awareness of self, a person seeking/quest for meaning and purpose in life, and a sense of connectedness to others and the world around them (including animate and inanimate objects). The spiritual aspects or correlates of sustainable development have been formulated to include ecological awareness, ecological identity, and pro-environmental behavior. According to T. Burger, ecological awareness can be defined as “a set of information and beliefs about the natural environment and perceptions of the relations between the condition and the function of the natural environment and the conditions and quality of human life” (**Kociszewska, 2014**). It is also believed that ecological awareness is the way in which a person views and interacts with the natural world, including their knowledge of it, their beliefs in it, and the moral principles they uphold. Thus, in fundamental terms, ecological awareness consists of three structural elements in the form of the system of knowledge and beliefs, values, and rules of conduct. Ecological awareness is invariably linked to ecological self. In 1987, Naess introduced the concept of the ecological self, which is meant to acknowledge that Humans are formed, in part, by nature. In other words, all humans necessarily have ecological aspects of selfhood. The self is understood as deeply connected with nature and as embedded in it, not excluded, or disconnected from it. Ecological awareness and ecological self together encourage individuals to engage in environmentally responsible behaviour. (**Sivek & Hungerford, 1989**), defines Environmentally Responsible Behaviour (ERB) as a specific term referring to “any effort, whether individual or collective, to address environmental concerns or issues “. Along with elements of sustainable development, the spiritual components create an environmental consciousness that changes the nature of sustainability into something deeper and more fundamental to human nature.

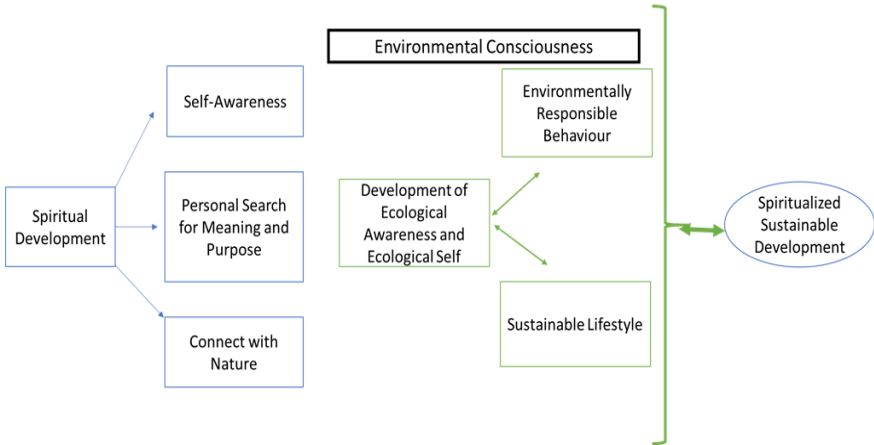


Figure 2: Linking spirituality and Sustainable Development

The above-mentioned framework suggests that spiritual development in the form of increased self-awareness eases or encourages the need to search for the personal meaning and significance of one's existence. The next step of realization in the spiritual process often results in a heightened sense of connectedness to oneself, others, and nature. These processes combine to contribute to the first step of spiritualized sustainable development which includes an ecological awareness of one's relation to the natural environment, and one's beliefs and values in the context of this relationship. Increased ecological awareness is likely to propel the individual to seek more information about the impact of his/her actions on the environment. Ecological awareness further contributes to the development of an ecological self that goes beyond its limited definition of self to include aspects of nature, thereby causing the individual to become more self-conscious and responsible. Once an individual has integrated or internalized the knowledge and concern about the environment into his definition of self, the cognitive and affective components of the self (now embedded in the larger context of the environment) are likely to influence the individual's intention as well as behaviour, to perform action that is environmentally responsible. This form of progression from self-awareness to environmentally responsible behaviour is suggested to occur spontaneously thereby enabling humankind to satisfy their survival needs without compromising the limited resources available in the environment.

However, the important point to note here is that these steps are not necessarily sequential in nature. The aspects of spirituality such as self-awareness, search for meaning and purpose, and connectedness with nature

often feed into each other, wherein one aspect may dominate the other. For instance, a dominant feeling of connect with nature is likely to influence development of ecological self and environmentally responsible behaviour and an eventual sustainable lifestyle more than others. Similarly, adopting a spiritual lifestyle can actually in some instances serve as a beginning point towards spiritual development.

The following proposition researchers can draw from the above-mentioned framework:

P1: Self-awareness, meaning in life and connectedness with nature are significantly related to spiritual development.

P2: Spiritual development is significantly related to ecological awareness, ecological self, and environmentally responsible behaviour

P3: Connect with nature is significantly related to ecological awareness, ecological self, and environmentally responsible behaviour

P3: Spiritual development is strongly related to environmentally responsible behavior and ecological awareness and ecological self-play a mediating role.

Conclusion

This paper explored the spiritual magnitudes of sustainability as a new prospect to address the unsustainability the globe is experiencing today. The need of the hour is to find and motivate the inner consciousness of individuals' lives, which will aid in the development of the external environment and provide solutions to mitigate the problem of unsustainability. Thus, it is recommended that the procedure of spiritual growth allows people to become mindful of their opinions, leading to pure and more sustainable communities. Spirituality acknowledges both the inner world and external truth of individuals, both of which play a role when trying to enhance sustainable behaviour. A spiritual approach manifests as a connection with all beings on the planet and reminds us that our purpose as human beings is to care for others, (Berejnoi et al., 2019).

Furthermore, it is said that development that is solely motivated by economic rewards is unable to be long-lasting because there is no financial motivation in the current interconnected world for the wellbeing of future generations. There is no denying that economic investments are critical for safeguarding and reviving the natural and human resources required for sustainable development, but sadly, they are not produced in adequate quantities.

The current global economic downturn is also highlighting how unsustainable the current development model is. Moreover, these financial incentives have made people more avaricious, envious, irritable, and hateful. Predictable growth models won't succeed in bringing about change for the welfare of the globe if individuals on this planet continue to be self-centered and desire material money and power with the aforementioned attributes. As a result, it is suggested that eco-spirituality be incorporated into the educational system because educational institutions provide a fantastic setting for teaching students about principles that promote holistic sustainability while also embracing the spiritual aspect of life. If this is done, people will start to see how closely ecology and spirituality are related. Also, emphasis should be placed on economic values, which are crucial for development and include those that are impersonal, instrumental, and individual.

Finally, what we refer to as sustainable development in the modern period is not holistic, is not sustainable, and does not bring satisfaction. Governments and businesses can no longer be relied upon to drive global development. Holistic development can only take place through inspiring and motivating every regular person at the grassroots level and helping them realize that they are powerless to alter the entire world, let alone a small part of it. They can only transform themselves to create a better world. And once we've all made the decision to change, there is nothing that can stop us. Because of this, if we can all change for the better, we might see a transformation that ushers in a more sustainable world.

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The Sustainability of Fintech: Analyzing its Impact on the Environment, Society, and the Economy

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Abstract

This research paper examines the sustainability of fintech by analysing its impact on the environment, society, and economy. Fintech, characterized by innovative digital technologies in the financial sector, has gained significant prominence in recent years. The paper begins with an introduction to fintech and its growing influence. A comprehensive review of existing literature explores the sustainability aspects of fintech, covering environmental, social, and economic dimensions. The methodology section outlines the research design and data collection methods employed for the analysis. The findings highlight the potential of fintech to reduce environmental footprint, improve financial inclusion, and foster economic growth. However, challenges such as data security and regulatory compliance are identified. The research concludes that while fintech presents opportunities for sustainability, careful management is necessary to ensure its long-term positive impact.

Keywords: *Fintech, sustainability, environment, society, economy*

Introduction

The rapid advancement of financial technology (fintech) has revolutionized the financial industry, offering innovative solutions for transactions, investments, and financial management (World Economic Forum, 2018). While fintech has brought numerous benefits and efficiencies to financial services, concerns have emerged regarding its sustainability implications (Ratten, 2020). This research aims to explore the impact of fintech on the

environment, society, and economy, ultimately assessing its sustainability and potential for positive change.

Review of Literature

Fintech and Environmental Sustainability

The integration of digital technologies in financial services has the potential to reduce the environmental footprint of traditional financial systems (Cho, Kim, & Pucihar, 2020). Fintech solutions enable paperless transactions, streamlined processes, and enhanced data management, leading to reduced resource consumption and lower carbon emissions (Chen, Hu, & Xu, 2021). Existing literature explores the environmental benefits of fintech, such as improved energy efficiency, reduced paper usage, and enhanced waste management practices (Breitenbach & Pombo, 2020).

Fintech, characterized by the intersection of financial services and technology, has emerged as a powerful force with the potential to drive environmental sustainability. One significant way in which fintech promotes environmental sustainability is through the digitization of financial processes. Traditional financial transactions often involve extensive paperwork, leading to significant resource consumption, including paper and ink. Fintech solutions, such as mobile payment apps and online banking platforms, enable paperless transactions, reducing the reliance on physical documents and minimizing paper waste (Bouri et al., 2021). This shift to digital transactions not only saves trees but also reduces the energy and water consumption associated with paper production.

Furthermore, fintech contributes to carbon emissions reduction by enabling remote financial transactions. By providing online banking services, digital wallets, and mobile payment options, fintech eliminates the need for physical visits to banks or financial institutions, thereby reducing transportation-related carbon emissions (Chen et al., 2021). This remote accessibility also has the potential to decrease the demand for infrastructure, such as physical bank branches, which require energy-intensive operations and maintenance.

Moreover, fintech platforms facilitate the adoption of sustainable practices by integrating environmental considerations into financial services. For instance, some fintech companies offer sustainable investment options that focus on environmentally friendly projects or companies with strong sustainability credentials (Breitenbach & Pombo, 2020). These platforms enable individuals and businesses to align their financial decisions with their environmental values, promoting a more sustainable approach to investing.

In conclusion, fintech has a significant role to play in promoting environmental sustainability. Through digitization, remote accessibility, and the integration of sustainable practices, fintech contributes to resource conservation, carbon emissions reduction, and the adoption of environmentally friendly financial choices. By leveraging technology and innovation, fintech has the potential to drive positive change and facilitate a more sustainable financial future.

Fintech and Social Sustainability

Fintech has the potential to promote social sustainability by addressing issues of financial inclusion and accessibility (Arner, Barberis, & Buckley, 2017). Through innovative platforms and digital solutions, fintech enables greater access to financial services, particularly for underserved populations and unbanked individuals (Lendbuzz, 2020). This inclusivity can empower individuals, enhance financial literacy, and foster economic development (Qureshi et al., 2021). The literature highlights the positive social impacts of fintech, including increased financial inclusion, reduced inequality, and improved social welfare (Yaros, 2020).

Fintech, the convergence of financial services and technology, has the potential to significantly contribute to social sustainability by enhancing financial inclusion, promoting economic empowerment, and improving access to financial services. This section explores the relationship between fintech and social sustainability, highlighting its impact on financial inclusion, poverty reduction, and social welfare.

One key aspect where fintech excels in promoting social sustainability is by addressing the issue of financial exclusion. Traditional financial systems often exclude marginalized populations, such as individuals with limited access to formal banking services, low-income households, or those residing in remote areas. Fintech disrupts this exclusionary paradigm by providing innovative solutions that leverage technology to offer accessible and affordable financial services (Qureshi et al., 2021). Mobile banking, digital wallets, and peer-to-peer lending platforms are examples of fintech solutions that empower individuals and enable financial inclusion, breaking down barriers to financial services.

Moreover, fintech platforms can enhance financial literacy and education, further promoting social sustainability. Through user-friendly interfaces and educational resources, fintech applications and tools provide individuals with valuable financial knowledge and skills (Schueffel, 2018). This increased financial literacy can empower individuals to make informed financial

decisions, improve their money management skills, and participate more actively in economic activities.

Additionally, fintech plays a crucial role in poverty reduction and economic empowerment. By providing microfinance services, crowdfunding platforms, and alternative credit assessment methods, fintech enables small-scale entrepreneurs and underserved individuals to access funding and capital for their businesses (Ratten, 2020). This access to finance helps create economic opportunities, fosters entrepreneurship, and contributes to poverty alleviation.

In conclusion, fintech has the potential to significantly enhance social sustainability by promoting financial inclusion, improving financial literacy, and empowering individuals economically. Through its innovative solutions, fintech bridges the gap between financial services and underserved populations, enabling economic participation, reducing inequality, and fostering social welfare.

Fintech and Economic Sustainability

The economic sustainability of fintech is closely tied to its potential for growth, innovation, and economic development (Schueffel, 2016). Fintech solutions offer opportunities for cost reduction, operational efficiency, and increased market competitiveness (Kshetri, 2017). The literature examines the economic implications of fintech, including job creation, entrepreneurship, and the potential for economic growth (Bouri et al., 2021). However, challenges such as data security, regulatory compliance, and potential disruptions to traditional financial institutions are also discussed (Schueffel, 2018).

Fintech, the intersection of financial services and technology, has the potential to contribute significantly to economic sustainability by fostering innovation, driving economic growth, and improving financial efficiency. This section explores the relationship between fintech and economic sustainability, highlighting its impact on economic development, entrepreneurship, and financial stability.

One key aspect where fintech excels in promoting economic sustainability is through its ability to drive innovation. Fintech solutions leverage technological advancements to create new financial products, services, and business models (Breitenbach & Pombo, 2020). These innovations stimulate competition, encourage efficiency, and foster economic growth. By providing faster and more accessible financial services, fintech platforms enable businesses to streamline operations, reduce costs, and optimize resource

allocation (Nguyen et al., 2021). This improved efficiency contributes to economic sustainability by enhancing productivity and resource utilization.

Moreover, fintech has the potential to facilitate entrepreneurship and economic empowerment. Traditional financial systems often pose significant barriers to entry for entrepreneurs, particularly those with limited access to capital and credit. Fintech platforms, such as crowdfunding and peer-to-peer lending, offer alternative financing options, making it easier for entrepreneurs to access funding for their ventures (Lee & Teo, 2021). This democratization of finance empowers entrepreneurs, encourages innovation, and fosters economic diversification.

Furthermore, fintech contributes to financial stability by enhancing risk management and transparency. Through advanced analytics, artificial intelligence, and machine learning, fintech platforms improve risk assessment, fraud detection, and regulatory compliance (Frost & Sullivan, 2020). This increased transparency and risk management strengthen the stability of financial systems and promote investor confidence, crucial elements for sustainable economic development.

In conclusion, fintech plays a crucial role in driving economic sustainability by fostering innovation, supporting entrepreneurship, and enhancing financial stability. By leveraging technology and providing efficient financial solutions, fintech stimulates economic growth, empowers entrepreneurs, and contributes to long-term economic sustainability.

Methodology

To investigate the sustainability of fintech, a mixed-methods research approach was adopted. Data was collected through a combination of quantitative analysis and qualitative research methods. Quantitative data was obtained from industry reports, academic publications, and government sources, providing statistical insights into the environmental, social, and economic impacts of fintech. Qualitative data was gathered through interviews and surveys with industry experts and stakeholders, allowing for in-depth exploration of specific sustainability aspects. The collected data was analyzed using appropriate statistical tools and thematic analysis techniques.

Findings

Environmental Impacts of Fintech

The analysis revealed that fintech has the potential to significantly reduce the environmental footprint of financial systems. Digitalization

of financial processes leads to reduced paper usage, energy efficiency improvements, and enhanced waste management practices (World Bank, 2019). Additionally, the adoption of sustainable infrastructure and renewable energy sources by fintech companies further contributes to environmental sustainability (Deloitte, 2020).

Social Implications of Fintech

Fintech solutions have the capacity to address social sustainability challenges by improving financial inclusion and accessibility. The research findings demonstrated that fintech platforms enable underserved populations to access financial services, bridging the gap between traditional banking systems and unbanked individuals (GSMA, 2019). Enhanced financial literacy, empowerment, and economic development were identified as key social benefits of fintech (Kapoor & Kaur, 2020).

Economic Effects of Fintech

The analysis indicated that fintech has the potential to drive economic growth, innovation, and entrepreneurship. By providing efficient and cost-effective financial services, fintech solutions can create new market opportunities and facilitate business expansion (European Commission, 2018). However, challenges related to data security, regulatory compliance, and potential disruptions to traditional financial institutions need to be carefully managed to ensure long-term economic sustainability (Claessens & Kodres, 2019).

Conclusion

This research paper examined the sustainability of fintech by analysing its impact on the environment, society, and economy. The findings suggest that fintech presents significant opportunities for sustainability, with positive impacts on the environment, society, and economic growth. Fintech's ability to enable paperless transactions, improve financial inclusion, and foster economic development highlights its potential to drive positive change. However, challenges related to data security, regulatory compliance, and potential disruptions to traditional financial systems must be addressed to ensure the long-term sustainability of fintech.

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Factors that Affect Women Entrepreneur Pursue and Perform in Social Venture

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Abstract

Women entrepreneur in most cases fails due to the shortage of finance. Not only finance, women entrepreneur faces many problems such as shortage of raw material, capital and obtaining clients because it is still believed by our society that women are best suited for household chores. If women are not trusted or not given proper opportunities, then neither the family will move ahead nor the country. According to a recent report, approximately four out of ten women exit the business at the very initial stage itself. However, certain factors impact the success of female entrepreneurs. These investigations have discovered that emotionally supportive network, information base just as close to home direction were the absolute most all-encompassing variables which affect the achievement of female business visionaries in these economies. These investigations recognized the absolute most critical elements which sway the accomplishment of female business people in arising economies like India. It will be very instrumental for giving bearings for the policymakers, ladies business visionaries, and researchers to encourage a helpful climate to guarantee the achievement of the female business people in the developing business sectors when the pace of disappointment is high. A sample of 225 young women was surveyed to know the Personal Factors that enhances the Entrepreneurial Confidence and Success in the young women. It is also found that Support system, Self Confidence, Need of Success and achievements and Risk Taking Abilities are the Personal Factors and there is a significant impact of Personal Factors in enhancing Entrepreneurial Confidence and Success in the young women.

Keywords: *Women entrepreneurship, women power, female literacy*

Introduction

Women entrepreneurship is one of the fast-growing and developing global phenomena which attracts considerable researchers' attention during the past few decades. It does not just contribute towards the economies regarding the creation of jobs and growth of the economy, but it's even recognized as the main source for increasing the entrepreneurial diversities in the range of the economic context as such it gives a valuable focus for the concerted researchers. Notwithstanding, regardless of the conspicuous commitment of female business venture actually faces a few difficulties and boundaries that might impede them from the achievement of the business person. Actually, female business people are disregarded for being upheld for starting the business in a ton of arising economies. Tragically, less measure of consideration is given to female business people in the arising economies regardless of their practical commitment towards GDP just as lightening of destitution. Due to an intricate connection of the strict, socio-social elements and the designs of the family (**Ahl and Nelson, 2015**).

The support of ladies in the male-ruled and conventional society is the subject of discussion. The face segregation of ladies and the sexual orientation disparities due to sex inclination power relations dependent on bias and imbalance. These investigates attempt to observe the variables which impact the exhibition of female business visionaries in the specific situation. Thus, the previous studies assessed that the support from the family, motivation and self-confidence, motivation and risk-taking, and the lack of skills of doing business play an important role in the performance of women employees. While the policies of the government, access to culture, finance and regulation prominently affect the women enterprises' success. As per the findings the culture, environmental and economic factors, and the behavior of the employees prominently impact the performance of the firm. Thus, these studies examine the external and internal factors on the performance of the female enterprises since developing nations have religious and cultural activities that are prominently different from the other religions. Additionally, there's a lot of uncertainty in the government and economic sectors that is a huge challenge for female investors during the decision of investment. Thus, checking the external and the internal factors are important in the context of women employees since sometimes because of the environmental factors and the government policies, uncertainly could disturb the behavior of the employees like level of confidence, the motivation that negatively impacts the firm performance of the women enterprises. While, the previous studies tested such factors in developed

nations, where the female entrepreneurs have got different supportive regulations and rules to launch their business and for running it. Thereby, some studies demonstrate that the factors could prominently impact female entrepreneurial success in developing economies.

Women entrepreneurship is a rising global phenomenon which attracts a lot of researchers' attention during the past few decades (**Hasan and Almubarak, 2016**).

In the current period, females are viewed as fruitful business visionaries through solid characteristics, want just as capacities for powerful financial development and improvement. As a result of this sort of significant commitment of females in financial turn of events, specialists have proposed to research factors that sway the achievement of female business visionaries. The consequences of studies show that inside factors incorporate the requirement for accomplishment, self-assurance, hazard taking and the outer parts which incorporate the socio-social elements and monetary variables decidedly affect the achievement of female-run endeavors. These investigates suggest little and mid-undertakings, experts, policymakers, and so forth for empowering the female business people for showing the business for the long haul to offering various motivators and furthermore supporting the outer and the interior variables. A few examinations have been done for testing the impact of various variables on the pioneering accomplishment of ladies endeavors yet the review researches the social, mental, and strict elements which are immaculate (**Agarwal and Lenka, 2015**).

Literature Review

It is important to study women's entrepreneurship separately. This is mainly because women's entrepreneurship is considered to be an important and untapped source for the economic growth and development of the economy. The female entrepreneurs create new jobs for themselves as well as others while being completely different also gives the society several solutions to the management, the organization, and the business issues and exploitation of the entrepreneurial opportunities (**Batool and Ullah, 2017**).

However, they do represent the minority of entrepreneurs. Therefore, there is a failure in the market which discriminates against the possibility of women becoming entrepreneurs as well as their possibilities for becoming successful entrepreneurs. This failure of the markets has to be addressed by the policymakers so that the economic potential of the group could be utilized completely. While undoubtedly the economic effect of females is

substantial, still it is important to stick to the reliable picture which describes in-depth the particular impact (**Danso, et al., 2016**). The recent efforts which have been initiated by respective authorities are the response to lack of knowledge and focus the attention of the researchers and policymakers on the important topic. Another reason for this is that women who are in entrepreneurship have been neglected largely both in society generally speaking and also in social science. Not just women have low participation rate in entrepreneurship than males, but they even usually prefer starting and managing firms in different industries to men (**Hassan and Yusuf, 2015**). Industries mainly education, retail, and service industries selected by women are considered to be less important for economic growth and development than the high manufacturing and technology. Further, the policies, mainstream research, and programs are often men streamed and don't take into consideration the particular needs of female entrepreneurs and future women entrepreneurs (**Chatterjee and Das, 2016**).

Resultantly, equal opportunity between women and men from the viewpoint of entrepreneurship is not real. For policymakers to address this type of situation, researchers have made certain recommendations. For realizing the benefits of the changes in the policy its significant to incorporate the dimensions of women entrepreneurs to consider all the growth policies and SMEs like meeting the financial needs of omen at different stages of business continuum, taking up of the business growth and development as well as support services, and access to government, international markets and corporate markets, access to technology as well as utilization, innovation, and research and development, etc. (**Khan and Ghufra, 2018**). Moreover, it means periodic evaluation of the effect of such measures on the success of female-owned businesses as well as exchanging best practices and good models, with cooperation with the leading international organizations for continually improving the programs and policies (**Aldana and Thiagarajan, 2016**).

The women in India cannot be efficient entrepreneurs. Moreover, it also means that periodically the effect of such measures should be evaluated on the success of female businesses and also exchanging the best practices and the good models, with the help of cooperation with the top international organizations like the European Union (**Henry, Foss and Ahl, 2016**). OECD, UNCTAD, APEC, and ILO for continuously improving the programs and policies. The women in India women cannot be efficient entrepreneurs and cannot go beyond their home used to be a myth that has been demolished convincingly in this modern-day era. Since women are now migrating

to cities and towns, there's economic independence as well as education (**Gupta and Mirchandani, 2018**).

Doors are also opening and giving access to women to the areas where they can blossom as well as grow as an individual in their own right. The women in India have invaded the forbidden land of entrepreneurship and they have also taken the risks, faced a lot of challenges while proving to the whole world that politically, socially, psychologically they are strong and not on the receiving ends anymore (**Bastian, Sidani and El Amine, 2018**). The section of urban women has emerged as potential and prospective entrepreneurs. Women have got vast entrepreneurial attributes that could be harnessed for converting them from the status of the job seeker to being the job givers. The process of entrepreneurship has been recognized as the full-fledged profession and the domain of female entrepreneurship is not behind in today's society (**Balogun, Balogun, and Onyencho, 2017**). Female entrepreneurship is a process where the females only organize the different factors of production, undertake different types of risks and offer employment opportunities to others. It has been observed by a lot of researchers that the most acceptable definition of female entrepreneurs includes the women who develop anything new, organize production and also undertake risks while handling the economic uncertainties (**Hazudin et al., 2015**).

It has also been stated that female entrepreneurs could be defined as the women or a group of women who organize, initiate as well as run the business enterprise. Regarding innovative entrepreneurs, the women who are ready to innovate, imitate as well as adopt any kind of business activity are known as entrepreneurs (**Laukhuf and Malone, 2015**).

Some researchers also define women entrepreneurs as the ones who think about a business organization, initiate it, combine different factors for production and organize them, operate an enterprise and also undertake risks while handling economic uncertainties which are involved in running the business enterprise. Female entrepreneurs are women or the group of females who organize, initiate as well as operate business enterprises (**Balakrishnan and Low, 2016**). Therefore, women's businesses are increasingly at a very fast pace in the current day's economic scenario. The hidden potential of females has also been changing gradually with rising sensitivity to the role as well as economic status in a society and it perhaps in this world of entrepreneurship that value, as well as recognition of the contribution of women, is most important for emerging in the business venture (**Poggesi, Mari and De Vita, 2015**).

Based on previous researches, entrepreneurial success has also been discussed several times and several terms have also been discussed like business success, venture performance, venture survival, venture growth, etc. As stated by researchers, women entrepreneurs are not considered to be successful in case their success is only measured by the economic perspective since the businesses which are owned by females are mostly smaller in size and also grow slowly (**Sequeira, Gibbs, and Juma, 2016**).

A few analysts have additionally expressed in their review that a ton of females have depicted accomplishment in an abstract way like opportunity of picking their day by day exercises, the capacity to adjust among family and work, commitment towards the local area, kids, notoriety just as personal satisfaction which is accomplished by them. The vast majority of the ladies business people have perceived achievement provided that they can keep a harmony between their business and family in view of numerous jobs and troubles in overseeing both the jobs together (**Mamun, and Ekpe, 2016**).

So, in some studies, the success of women entrepreneurs has been interpreted through a balance between life and work religious feelings and sustaining personal and client relationships. Several types of research on the success of women entrepreneurs have been conducted in previous papers. However, some researchers have claimed that researches mainly focus on the success of female entrepreneurs is not sufficient. Thus, studies have been done for filling the gap (**Shmailan, 2016**). An important factor for highlighting the success of female entrepreneurs includes the psychological attributes and some studies have tried to assess the impact of the variables on the success of female entrepreneurs (**Abdallah and Alnamri, 2015**).

Additionally, some researchers have also stressed the fact that the study of psychological attributes is important since it helps in determining the success of female entrepreneurs. The whole concept of the self-efficacy of entrepreneurs has been derived from the theory of social learning. The concept of self-efficacy is mainly based on the perception of the individual about their attributes and abilities as well as their efficiency for performing the particular tasks. It also reflects the confidence of an individual in her or his ability to succeed in these kinds of tasks (**Tinkler et al., 2015**).

In the context of entrepreneurship, self-efficacy may be defined as the confidence of an individual in her or his capability for succeeding in the entrepreneurial tasks and roles. The entrepreneurial self-efficacy also influences the aspirations, choices as well as efforts, and perseverance while the entrepreneurs face challenges and it also plays a very important

role for development for the intention of establishing and managing new ventures (**Hussain, Mahmood, and Scott, 2019**). Some of the researches have focused specifically on whether self-efficiency is the main factor to explain why some of the individuals who have a high entrepreneurial self-efficiency tend to show high entrepreneurial intentions (**Khan et al., 2021**).

The significance of entrepreneurship has also caught the attention of the government for further emphasizing on the development of entrepreneurship as its reviewed in the researches, studies, conferences, seminars, etc. regarding entrepreneurship that's held as well as presented at the international as well as the local level. As studies regarding entrepreneurship grow, it even causes a lot of interest as well as research in women entrepreneurship like the researches done by a lot of researchers. However, such researches are recent and focused on the factors which impact the success of female entrepreneurs as well as motivation amongst women for being entrepreneurs (**Rani and Hashim, 2017**).

Objective of the study

1. To know the Personal Factors that enhances the Entrepreneurial Confidence and Success in the young women.
2. To know the Effect of Personal Factors in enhancing Entrepreneurial Confidence and Success in the young women.

Research Methodology

A sample of 225 young women was surveyed to know the Personal Factors that enhances the Entrepreneurial Confidence and Success in the young women and the impact of personal effect on Entrepreneurial Confidence and Success. The study is a quantitative investigation whose primary data was collected through a questionnaire designed for present study through random sampling method. The statistical tools like Factor analysis and multiple regressions were applied to analyze the data and reach to results.

Findings of the Study

Table 1 is demonstrating general profile of the respondents in which it is found that total 225 female respondents were surveyed for the present study. Among them 38.7% are from the age group 26-30 years, 41.3% from 30-35 years and rest 20.0% are above 35 years of age. 36.0% of the respondents are Intermediate or below, 43.6% are graduates and above and rest 20.4% are having some other educational qualification. 41.8% of the

respondents are married and rests 58.2% are unmarried in which 35.1% are having good financial status, 40.5% with average and rest 24.4% are having poor financial status.

Table 1: General Profile of the Respondents

Variables	Respondents	%age
Gender		
Females	225	100
Total	225	100
Age		
26-30 yrs	87	38.7
30-35 yrs	93	41.3
Above 35 yrs	45	20.0
Total	225	100
Educational Qualification		
Intermediate or below	81	36.0
Graduate and above	98	43.6
Others	46	20.4
Total	225	100
Marital Status		
Married	94	41.8
Unmarried	131	58.2
Total	225	100
Financial Status		
Good	79	35.1
Average	91	40.5
Poor	55	24.4
Total	225	100

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.882
Bartlett's Test of Sphericity	Approx. Chi-Square	3164.768
	df	136
	Sig.	.000

“KMO and Bartlett's Test” was applied in which KMO value found is .882 which is more than the 0.6 hence it confirms the validity of the factor analysis.

Table 3: Total Variance Explained

Component	Initial Eigen values			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.627	44.865	44.865	4.076	23.975	23.975
2	2.083	12.250	57.116	3.729	21.934	45.909
3	1.887	11.100	68.216	2.945	17.324	63.233
4	1.348	7.929	76.145	2.195	12.912	76.145
5	.746	4.390	80.535			
6	.640	3.763	84.298			
7	.446	2.626	86.924			
8	.401	2.361	89.285			
9	.363	2.136	91.421			
10	.341	2.006	93.427			
11	.257	1.513	94.940			
12	.236	1.386	96.326			
13	.198	1.163	97.490			
14	.165	.969	98.458			
15	.125	.738	99.196			
16	.080	.473	99.669			
17	.056	.331	100.000			

It is found from the table 3 that the 4 factors explain total 76% of the variance. The 1st Factor explains 23.975% of the variance followed by the 2nd Factor with 21.934%, 3rd Factor having 17.324% and 4th factor explains 12.912% of variance.

Table 4: Rotated Component Matrix^a

Sr. No.	Personal Factors enhancing Entrepreneurial Confidence and Success	Factor Loading	Factor Reliability
	Support system		.955
1.	Emotional support from the family	.855	
2.	Supportive hands through friends and colleagues	.843	
3.	Financial support is very important for young women through friends and family	.843	
4.	Mental support from family enhances the Entrepreneurial Confidence in young women	.833	
5.	Practical support in the form of partnership and helping hands	.797	
	Self confidence		.904

1.	Having confidence about own skills and abilities	.869	
2.	Having confidence to accepts the negative things of life	.868	
3.	Trusting own believes leads to success in business	.799	
4.	Having confidence to create new things in business	.749	
5.	Believing in positive side of own personality	.707	
	Need of success and achievements		.868
1.	Need to become independent	.861	
2.	Need to achieve their own place in the society	.860	
3.	Need of having own business	.833	
4.	Need to be successful and achieve more in life	.633	
	Risk taking abilities		.742
1.	Ability of taking risk	.845	
2.	Ability to take risk investing in new venture	.796	
3.	Taking risk in trying new ideas in business	.732	

Development of the Factors

Support system is the factor that includes the variables like Emotional support from the family, Supportive hands through friends and colleagues, Financial support is very important for young women through friends and family, Mental support from family enhances the Entrepreneurial Confidence in young women and Practical support in the form of partnership and helping hands.

Second factor namely Self confidence associate with the variables like Having confidence about own skills and abilities, Having confidence to accepts the negative things of life, Trusting own believes leads to success in business, Having confidence to create new things in business and Believing in positive side of own personality. Need of success and achievements is factor number three that includes the variables like Need to become independent, Need to achieve their own place in the society, Need of having own business and Need to be successful and achieve more in life. Risk taking abilities is the fourth and last factor that includes the variables like Ability of taking risk, Ability to take risk investing in new venture and Taking risk in trying new ideas in business.

Construct wise Reliability of all the Factors

The reliability of different factors is observed as that the factor reliability of Support System is 0.955, Self Confidence has 0.904, need of Success and achievement is 0.868 and Risk taking abilities has 0.742 factor reliability.

Table 5: Reliability Statistics

Cronbach's Alpha	N of Items
.912	17

It is found from table 5 that there is total 17 numbers of items that includes all the variables related to personal factors and total reliability found is 0.912.

Multiple Regression Analysis

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.880 ^a	.774	.770	.39903
a. Predictors: (Constant), Support system, Self Confidence, Need of Success and achievements and Risk Taking Abilities				

The Value of “adjusted R square” is found to be 0.770, which means that the model explains around 77% of the variation. Table 7 shows the values of ANOVA, which is significant (sig. value below 0.05) which reflects the impact of independent variables is significant on dependent variable.

Table 7: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	119.832	4	29.958	188.145	.000 ^b
	Residual	35.030	220	.159		
	Total	154.862	224			
DV: Overall impact of Personal Factors in enhancing Entrepreneurial Confidence and Success in the young women						
b. Predictors: (Constant), Support system, Self Confidence, Need of Success and achievements and Risk Taking Abilities						

The value in the significance column is 0.000 which means that one or more variables are significant on dependent variable.

Table 8: Coefficients^a

Model	Un standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.929	.027		147.690	.000
Support System	.673	.027	.809	25.235	.000

Self Confidence	.208	.027	.250	7.801	.000
Need of Success & Achievements	.170	.027	.204	6.373	.000
Risk taking abilities	.101	.027	.121	3.783	.000
DV: Overall impact of Personal Factors in enhancing Entrepreneurial Confidence and Success in the young women					

Table 8 shows that all the factors namely Support system, Self Confidence, Need of Success and achievements and Risk Taking Abilities are showing significant impact on dependent variable “Overall impact of Personal Factors in enhancing Entrepreneurial Confidence and Success in the young women” as the value in the significant column for all the factors is below 0.05.

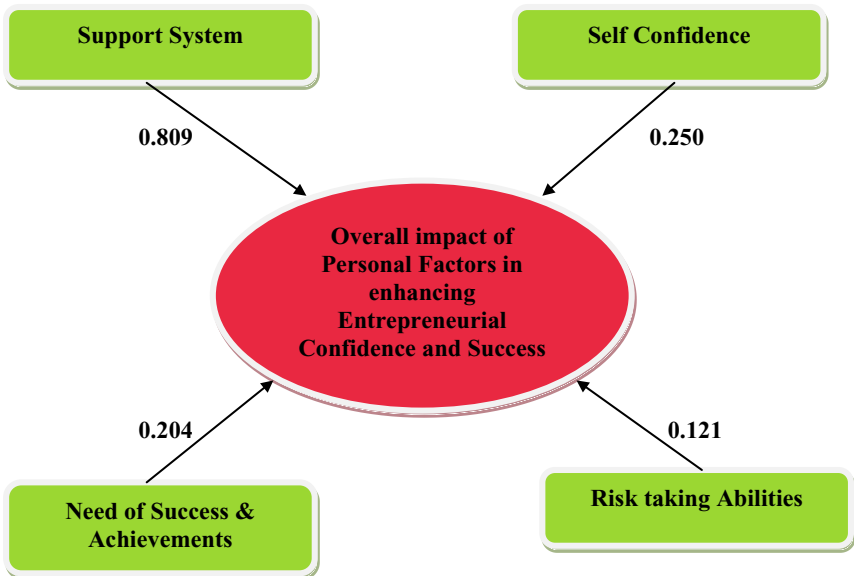


Figure 1: Overall impact of Personal Factors in enhancing Entrepreneurial Confidence and Success in the young women

Conclusion

With time, women entrepreneurs are being successful in coming out of their restrictions. Globalization as well as the spread of education have helped in bringing a new era for women to progress across the world. Nowadays women are considered to be important contributors to the economy as well as the growth and development of the nation. Especially, in the developing nations like India, which doesn't just have the largest youth population in the world but even has the highest rate of unemployment at 4.8%. A large number of youths belonging to the age group of 15 to 29 are either unemployed or

training according to a recent report. The women entrepreneurs may thus not just generate wealth while contributing to the nation's economy but even act as the potential source for required opportunities of employment. Thus, the policymakers, government, private institutions, NGOs, etc. working for boosting women empowerment need to work on all such factors as well as variables for providing a conducive environment for ensuring the success of the women entrepreneurs.

The study concludes that Support system, Self Confidence, Need of Success and achievements and Risk Taking Abilities are the Personal Factors that enhances the Entrepreneurial Confidence and Success in the young women. It is also found that there is a significant impact of Personal Factors in enhancing Entrepreneurial Confidence and Success in the young women.

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Effect of Workplace Stress on Psychological Well-Being among Employees of a Non-Banking Financial Institution in Kerala

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Abstract

Workplace stress is a common issue faced by many employees, especially in fast-paced work environments. Stress can lead to physical and mental health problems, decreased productivity, and even job burnout. It may have significant impact on psychological well-being of the employees also. Employees' psychological health is crucial for job success. The psychological well-being of an employee is intimately related to general job happiness, productivity, and morale. An employee is more likely to be devoted, engaged, and productive at work, if they feel comfortable and safe in their surroundings. Concern of employees about workplace stress in non-banking financial institutions (NBFI) is on the rise. It may be extremely stressful to perform and thrive as non-banking financial firms become increasingly complicated and competitive. The responsibility of dealing with regulatory compliance, managing customer expectations, and fulfilling deadlines may lead to a stressful workplace environment. This paper aims at analysing the impact of workplace stress on psychological well-being among the employees of non-banking financial institution in Kerala. Judgement sampling method was adopted for the study. 100 employees from Bajaj Finserv, Kerala were contacted for the study. Questionnaire was used for collecting the data from respondents. Ryf's Psychological well-being scale was used for the study. The result indicates that the workplace stress has a significant negative impact on psychological well-being of employees.

Keywords: *Workplace stress, psychological well-being, non-banking institutions*

Introduction

Work stress is considered as the pressure that people face when striving to complete duties linked to their jobs on a physical, mental, and emotional level. Factors such as job instability, workload, and working environment are some of the causes of stress at workplace. Work stress may lead to health issues such as anxiety, melancholy, sleeplessness, and other physical afflictions. Stress has increasingly become a normal part of daily life and an inevitable result of how society is developing. Workplace stress is increased in numerous ways by changes in technical advancement, modernization, urbanization, population expansion, and the growing rate of unemployment. Mawanza in 2017 identified that poor planning, lack of support at work, and bad work relationships are the stress-related variables that had a detrimental impact on productivity.

There is an increasing recognition that job stress has significant implications for the psychological well-being of the employees. Psychological well-being of employees is crucial for an organization's success in achieving its goals and objectives. It refers to the employee's total emotional and mental well-being, which encompasses their capacity to handle stress, their degree of job satisfaction and happiness, their level of drive and engagement, and their feeling of meaning and purpose in their work. An atmosphere that promotes the physical, mental, and emotional health of its employees, as well as their ability to perform effectively, is referred to as a psychologically healthy workplace. This means that businesses should place a high priority on their workers' psychological health by creating a happy work environment, giving them meaningful tasks, and the support they need to succeed.

Financial entities known as non-banking financial institutions (NBFCs) offer banking services but lack a full banking license. These organizations are unable to operate as banks since they are not permitted to take demand deposits. The Reserve Bank of India (RBI) oversees the regulation of NBFCs in India. Indian NBFCs provide a variety of services, including lending and financing, insurance, investment banking, asset management, and more. NBFCs are crucial to the Indian economy because they give people and companies access to banking and financial services who may not otherwise be able to do so. Additionally, they offer finance to small and medium-sized firms. They also provide a variety of services, including bill payment, money transfers, and other financial services. By supplying finance to companies and individuals, NBFCs also aid in the expansion of the Indian economy.

Employee stress at work is a widespread problem in Non-Banking Financial Institutions (NBFI). Employees of the NBFI are expected to work long hours, meet deadlines, and provide excellent customer service. These elements may result in a number of stress-related problems. The present study attempts to identify the effect of workplace stress on psychological well-being among the employees working in Non-Banking Financial Institutions.

Review of Literature

Madhuri Modekurti et al., (2008), studied the workers' levels of life satisfaction and organizational role stress among women employees in both extreme and mild organizational work environments. The data set took into account a broad sample of 60 experts who worked in both strict and lax regulatory environments. The split was 30-30, with 30 personnel in the nursing field and the remaining research associates, editors, and sub-editors working for a reputable business school in Hyderabad's press and publication division. The results showed that nurses expressed less life satisfaction. This was mostly caused by tension over the fact that their profession entails little opportunity for further education and inadequate training.

Job stress, wellbeing, work-life balance, and work-life conflict among Australian Academics were investigated by Amanda S. Bell et al. in 2012. The study analysed the correlations among these variables. Using Zedeck's Spillover hypothesis, high levels of perceived job pressure stress and job threat stress would predict higher levels of work-life conflict and lower levels of work-life balance, according to their study from 1992. Given the well-established link between stress and health, the study looked at the impact of job stress on wellbeing. Work-life balance was found to be less favorable and there was more conflict between academics' professional and personal lives when they reported feeling stressed at work. Stress related to perceived work threats contributed significantly and was a good predictor of work-life balance. Academics' perceived job-related stress was also a very significant predictor, and it was linked to lower wellbeing.

Sharon Doss et al. (2014) examined how stress affects work-life balance. It is mentioned that stress and work-life balance are related, and that the value employees place on each of them determines how they interact. It also emphasizes on the work-life of both employers and workers, and the study made recommendations for how work-life balance could be accomplished. According to reports, firms need to create rules that would reduce employee workloads while maintaining organizational efficiency in order to achieve a good work-life balance.

Oke et al. (2008) conducted research on the impact of occupational stress and its contextual factors on performance. A survey instrument was used to collect quantitative data from 10 financial institutions in Nigeria and qualitative information was gathered through a semi-structured interview. The relationship between job performance and workplace stress was analysed. It was found that employee stress experience reflects both individual and broader group attributes influenced by environmental circumstances. The results suggested that workplace stress and job performance are influenced by unfavorable opinions of organizational culture.

Sheffield et al. (1994) evaluated secondary school teachers' stress, social support, and psychological and physical health. The findings revealed a link between life stress, occupational stress, and psychological well-being. Long-term absence from work owing to sickness or physical health concerns were associated with stress and social support, although short-term illness absences was also associated with workplace stress. Social assistance had little effect on psychological well-being. Self-reported stress was found to be substantially related to psychological well-being, but not to physical well-being.

Rostami et al. (2008) compared teachers' psychological wellbeing and burnout. A mental health measure was used to assess psychological wellbeing among 127 teachers. The findings revealed a substantial gender difference for the single subscale of emotional exhaustion and burnout, with females scoring lower than males. Other subscales of general mental health, such as anxiety, somatic symptoms, and depression, revealed substantial differences between men and women. Burnout is positively associated with mental health difficulties such as anxiety, melancholy, social function, and physical symptoms.

Salami (2010) looked into how work-related stress and happiness are related, as well as the moderating roles that emotional intelligence, self-efficacy, coping mechanisms, negative affectivity, and social support might play. The data was examined using hierarchical multiple regression. The research showed a link between psychological health and occupational stress that was detrimental. Teachers with low negative affectivity and high levels of professional stress had high levels of psychological well-being, and vice versa. The results showed that psychological health was better in those who had higher levels of self-efficacy, emotional intelligence, coping strategy, active problem solving, and social support.

The Present Study

Based on the empirical and theoretical evidence, as presented above, the current study was undertaken to find out the effect of work stress on psychological well-being of employees working in Bajaj Finserv, Kerala.

Hypothesis

Following two hypotheses were formulated for the study

H01= There is no significant association between age and workplace stress of employees in non-banking financial institutions.

H02= There is no significant association between work experience and work stress of employees in non-banking financial institutions.

H03= There is no significant relation between work stress and psychological well-being

H04= There is no significant difference between effect of work stress on psychological well-being based on demographic variables.

Research Methodology

This research paper explains the effect of workplace stress on psychological well-being among the employees of a Non-Banking Financial Institution, operating in Kerala. Judgement sampling method was adopted for the study. 100 employees from Bajaj Finserv, Kerala were contacted for the study. Questionnaire was used for collecting the data from respondents. Ryf's Psychological well-being scale was used for the study. The data were then analyzed using correlation test and ANOVA.

Results

Reliability

Sl. No	Factor	Cronbach's Alpha	No. of items grouped
1	Wok place stress	.845	13
2	Psychological well-being	.762	12

From the above table it is found that, for work place stress, there are 13 questions based on that and is reliable with .845 Cronbach's alpha. For psychological well-being, it has 12 items and the value of Cronbach's alpha is .762. Therefore, reliability coefficients for the variables chosen for this study are more than 0.70, which is an acceptable value. So it is having consistent and reliable for the study.

Chi-Square Tests (age and workplace stress)			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.350 ^a	12	.000
Likelihood Ratio	10.250	12	.000
Linear-by-Linear Association	1.855	1	.619
N of Valid Cases	100		

The Chi Square value is .000 which is significant at 0.05 levels. Hence the null hypothesis is rejected. And found that there is a significant association between age and work place stress.

Chi-Square Tests (work experience and workplace stress)			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.349 ^a	12	.000
Likelihood Ratio	16.468	12	.000
Linear-by-Linear Association	.013	1	.502
N of Valid Cases	100		

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is 3.15.

The Chi Square value is .000 which is significant at 0.05 levels. Hence the null hypothesis is rejected. And found that there is a significant association between work experience and work place stress.

Correlation

		Workplace stress	Psychological well-being
Workplace Stress	Pearson Correlation	1	-.309**
	Sig. (2-tailed)		.000
	N	100	100
Psychological well-being	Pearson Correlation	-.309**	1
	Sig. (2-tailed)	.000	
	N	100	100

Value for Pearson's correlation is -.309. This shows that there is a negative correlation between workplace stress and psychological well-being of employees working in the non-banking financial institution in Kerala. Workplace stress and psychological well-being are moving in opposite direction. That means, while workplace stress increases psychological well-being decreases.

Impact of work stress on psychological well-being with respect to demographic variable.

Demographic variable	Significant Value
Gender	.003
Age	.000
Marital status	.002
Work experience	.001

The table shows the result of ANOVA done to test the impact of work stress on psychological well-being with respect to demographic variables. The result shows that the p values are less than 0.05. The p values with respect to gender, age, marital status and work experience are 0.003, 0.000, 0.002 and 0.001. The null hypothesis rejected. Hence, there is a significant difference between effect of work stress on psychological well-being based on demographic variables

Discussion

Results indicate that work stress leads to feeling of low psychological wellbeing. For testing association between age, work experience and workplace stress Chi-square test was used. It is found that there is a significant association between age and work place stress and work experience and workplace stress. For testing the significant difference in the effect of work stress on psychological well-being with respect to the demographic variables, ANOVA was used. The significance level was less than 0.05. therefore, the null hypothesis rejected. Hence, there is a significant difference between effect of work stress on psychological well-being based on demographic variables.

Managerial Implications

The study report on the effect of workplace stress on psychological well-being among employees of Non-Banking Financial Institution in Kerala. Managerial implications include recognizing and acknowledging the impact of stress on employee mental health; implementing policies and procedures to reduce stress in the workplace; encouraging employees to participate in stress-relieving activities such as yoga and meditation; creating an open and supportive work environment; and educating employees on the importance of mental health and providing them with resources to support their well-being.

Conclusion

The outcomes of this study reveal that occupational stress has a considerable negative influence on the psychological well-being of employees in the Non-Banking Financial Institution in Kerala. According to the study, businesses should take steps to reduce workplace stress in order to improve their employees' psychological well-being. A welcoming work environment, stress management training, and the development of enhanced work-life balance policies are a few examples of these efforts. Furthermore, because mental health is an important component of overall health and wellness, businesses should provide their employees with tools and support in this area. Employers should also ensure that employees have access to the tools and resources they require to handle stress at work.

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Work Life Balance while Working from Home : Challenges and Issues

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Abstract

Every employee reaches a point in his life when he fantasises about escaping his dreary nightmare of lengthy office hours followed by traffic jams. Nevertheless, he believes that his job occasionally brings out the best in him. Long working hours, a grumpy supervisor, and being stuck behind a queue of cars. Working from home and reducing your expenses will save you time. Working from home (WFH) is a contentious concept that is being investigated by an expanding number of businesses worldwide. This study's primary objective is to examine and perceive current perspectives on the concept of WFH. The objective of the study is to identify a correlation and evaluate its applicability to the Indian workplace. In addition to discussing its benefits and drawbacks, this study also makes some recommendations. Gurugram based IT industry employees from Wipro were surveyed to collect primary data for the study. Secondary data includes information from similar research papers, case studies, and articles gathered from the Internet as well as newspapers and magazines.

Keywords: WFH, office hours, Covid, IT Industry.

Introduction

Jack Niles, a NASA engineer, coined the term “telecommuting” in 1973, which alludes to working remotely using electronic devices. In approximately twenty years, he predicted, ‘telecommuting’ will become the norm and culture. In recent decades, telecommuting has gained popularity in many regions of the globe, but its acceptance in India has remained limited. The majority of Indian enterprises prohibit employees from working remotely.

However, the Pandemic Coronavirus and subsequent Pandemic Lockdown have made remote labour inevitable. During the statewide lockdown, several Indian organisations have exhorted and mandated that their employees Work - From - Home in order to socially isolate individuals and reduce the spread of COVID -19.

The concept of work-from-home refers to an organisation in which employees are not required to commute to a central location. Telework, telecommuting, and remote work all refer to the same concept. WFH is a familiar concept that has evolved over time. As a result of technological and connectivity advancements, employees can now work effectively and efficiently without being required to remain at their desks all day. “When we work from home, sometimes speed and quality are sacrificed,” stated Yahoo CEO Marissa Mayer. We must be one Yahoo!, and physical proximity is the first step”. This decision prompted numerous discussions regarding the concept of working from home. This action by a multinational company like Yahoo reveals a number of faults in the argument.

Work-from-home is a flexible working system for twenty-first century organisations.

The Corona Virus Pandemic (COVID-19) has compelled the greatest number of employees in the world to work from home. In the majority of nations, including India, employees are encouraged to avoid social engagements and remain at home. COVID -19 had an effect on all economic sectors. At this time, the majority of companies across all industries began to incorporate work-from-home policies into their HR policies. Because the concept was novel in India, the researchers sought to determine the preferences of Indian personnel across industries/sectors and demographic characteristics.

Challenges and Issues of Work from Home:

1. Technological challenges: WFH requires employees to have access to reliable and stable internet connectivity, as well as necessary hardware and software. The lack of these resources can cause disruptions and delays in work.
2. Communication challenges: Communication breakdowns can occur in a remote work environment, leading to misunderstandings, delays, and reduced productivity. The lack of face-to-face interaction can make it difficult to convey emotions, leading to misinterpretations of messages.
3. Isolation and loneliness: Remote workers can experience feelings of isolation and loneliness, which can negatively impact their mental health and well-being.

4. Distractions and lack of work-life balance: WFH can blur the lines between work and personal life, leading to distractions and difficulties in achieving work-life balance. Family members, household chores, and other distractions can interrupt work and reduce productivity.

Lack of supervision and accountability: Remote workers may feel disconnected from their managers and colleagues, leading to a lack of supervision and accountability. This can result in reduced productivity and a lack of motivation.

Literature Review

According to a study by Stanford University, working from home significantly increases productivity. In comparison to office employees, previous Harvard Business School research indicates that WFH can reduce turnover by 50% and report significantly higher job satisfaction. Having flexible work hours and the option to work from home increases the earnings of mothers. At the employee level, the possibility of remote employment is more attractive. According to research conducted in 2017, the average employee is willing to take an 8% wage cut to work from home. This indicates that employees place a monetary value on the flexibility a WFH policy provides.

According to Toyin et al. (2016), a person's work and personal life are the most significant aspects of his or her life. Certainly, balancing a career and a personal life is one of the most challenging obstacles families confront in the modern world (Walker et al., 2008). The family can play a vital role in promoting and sustaining the well-being of employees and the social order. According to Friedman (2014), "Four Circles" represents the four aspects of a person's existence: "work, home, community, and self." To replicate the value of each sphere, he suggests adjusting their proportions. This serves to reproduce the "principles, aims, interests, actions, and results" cultivated in each sector, as well as whether they are complimentary or antagonistic.

According to Grant et al. (2013), technology has had a significant impact on the workplace, allowing employees to work from home or anywhere else. According to Kurland and Bailyn (1999), work has become a "limitless activity" that can be performed "anytime and anywhere." Work flexibility, according to Toffler (1980), can aid in attaining a work-family balance. According to Kreiner et al. (2009) and Mayo et al. (2011), it is difficult for workforces to attain a work-life balance. According to Grant-Vallone and Ensher (2011), a struggle between work and home can result in both health and personal/family problems.

Methodology

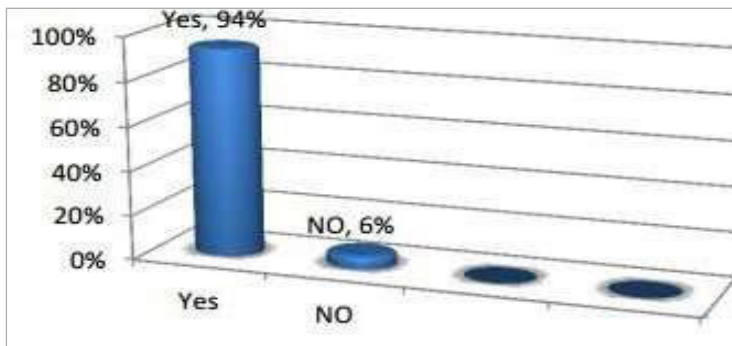
Sample, Source of Data Collection, and Statistical Instrument

The research is founded on data collected from a random sample of 50 Wipro employees. Data was collected using a questionnaire and in-depth interviews with a sample of Employees from various income and age groups. Articles from books, journals, periodicals, research papers, newspapers, and reports were also utilised as secondary data.

Data Analysis

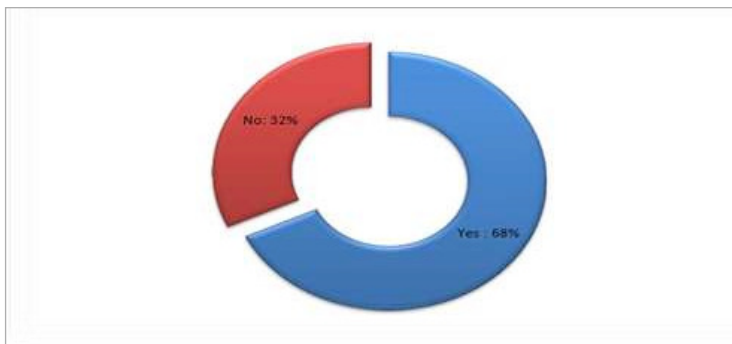
Nine-question questionnaires were submitted by 50 employees of Wipro, a well-known company in IT sector, India. The accompanying pie charts and histograms depict the data obtained question by question.

Figure 1. Awareness of Employees towards the concept “Working from Home”



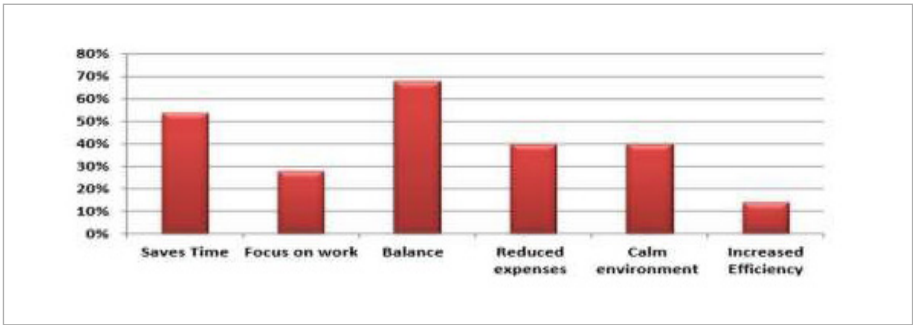
(Source: Field Survey)

Figure 2. job flexibility to allow employee to ‘Work from Home’



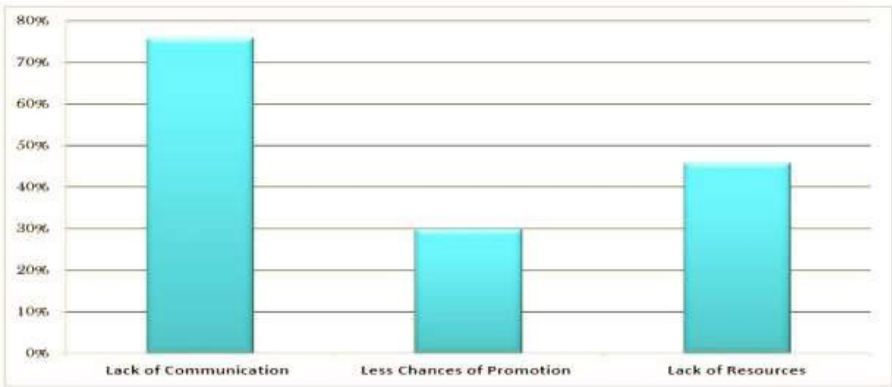
(Source: Field Survey)

Figure 3. Advantages of 'Work from Home'



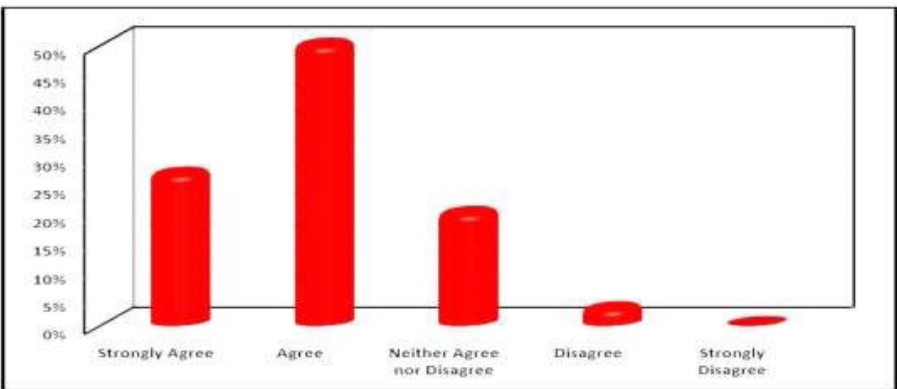
(Source: Field Survey)

Figure 4. Disadvantages of 'Work from Home'



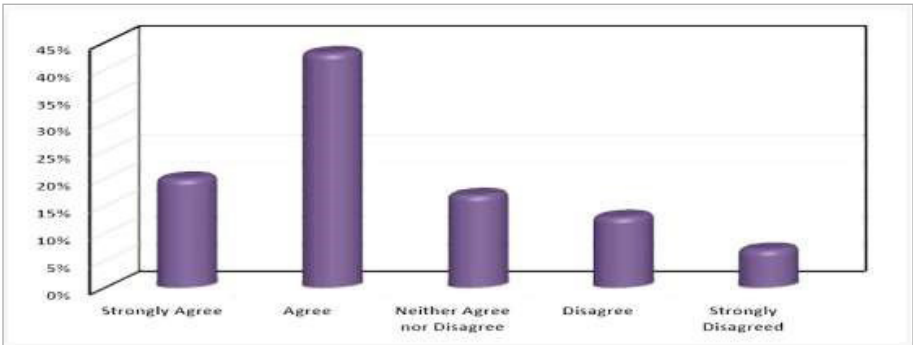
(Source: Field Survey)

Figure 5. "Work from home" will improve one's quality of working life



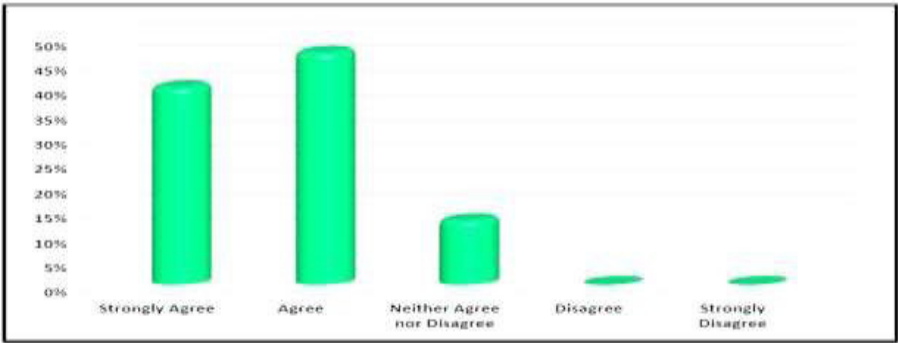
(Source: Field Survey)

Figure 6. Suitability of work from home concept in Indian work Environment



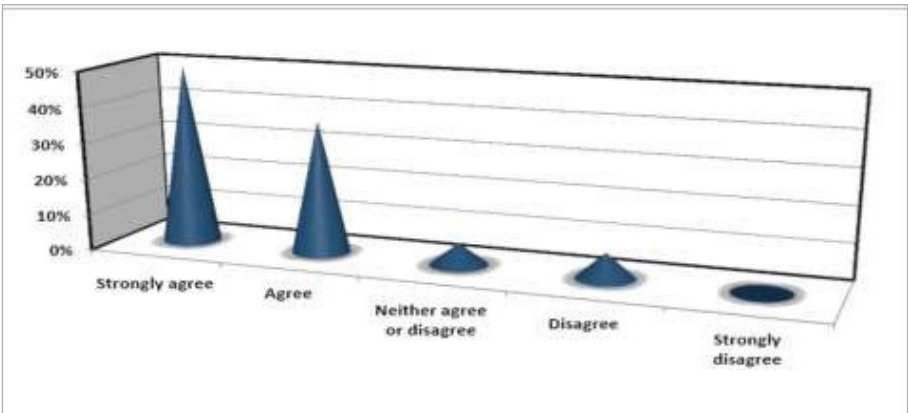
(Source: Field Survey)

Figure 7. WFH a preferred choice for married Indian women



(Source: Field Survey)

Figure 9. WFH should be an option or compulsion for employees.



(Source: Field Survey)

Discussion of Result

94% of respondents were acquainted with the concept of telecommuting. Even the 6% of Employees who had never heard of the concept were interested in learning more.

In recent years, the subject has been the subject of heated debate, according to employees who are familiar with it.

68% of those surveyed said their profession allowed them to work from home. An average of two days per week were spent working from home. The majority of those who responded negatively worked in jobs that required them to be in an office or similar location in order to be effective and efficient. This demonstrates that the concept is not applicable to all economic sectors.

According to the respondents, the benefits of working from home include time savings, increased productivity, an emphasis on work in a peaceful setting, a balance between family and work life, a reduction in travel and fuel expenses, and a less stressful environment. According to 68% of them, working from home enables for a better balance between work and family, while 54% say it saves time.

Surprisingly, only 14% said it increased their productivity, whereas 28% said it helped them concentrate on their task. This demonstrates that employees find the office environment more conducive to productivity, whereas working from home frequently results in interruptions.

Employees were asked what, in their opinion, the disadvantages of working from home are. They were presented with alternatives such as a lack of direct communication with colleagues and superiors, fewer opportunities for advancement, and a dearth of resources. According to 76% of those surveyed, the greatest disadvantage of working from home is a lack of communication and engagement with co-workers, while only 30% believe it diminishes their chances of promotion. The results disproved the widely held belief that employees who work from home are less likely to receive promotions and higher pay. Some respondents also cited a lack of discipline, infrastructure adjustments, and intranet network connectivity as negatives.

Employees were asked what they were willing to sacrifice to work remotely. They were given options such as salary reductions, vacations, co-workers interaction, collaboration innovation, and free office resources.

24% were willing to take fewer vacations, and 38% were willing to forsake office resources in order to work from home.

On the other hand, 28% of respondents were unwilling to accept a compensation cut, and 20% were unwilling to work from home without face-to-face interaction. In addition, 26% of respondents were averse to forego office resources in order to work from home. These results accurately reflect the work ethic of Indians, who are prepared to forgo vacations but not their salaries.

Respondents were asked if they believed “working from home” would enhance an individual’s quality of life over time. 30% strongly concurred, and 50% agreed with the statement. Only 2% of respondents were opposed to the assertion. Most respondents believed that working from home would enable them to be more productive at work and maintain a healthy work-life balance.

Respondents were asked if they believed WFH to be appropriate for the workplace in India. 13% of respondents disagreed, and 7% strongly disagreed with the statement, while 20% concurred and 43% strongly agreed. This demonstrates that while the majority of Indian employees are receptive to the idea, a sizable fraction of them is wary of it due to perceived disadvantages such as pay cuts and promotions.

40% strongly concurred, and 47% agreed that WFH would be more beneficial for married Indian women. It is intriguing that no one disagreed with the assertion. Generally, married Indian women are expected to reconcile career and family obligations. They would benefit from working from home because it would enable them to strike a better balance between work and family life.

One out of every two respondents and 37% agreed that working from home should remain an option for employees. Only 7% of employees disagreed, indicating they are well-versed in the concept of working from home and willing to embrace it despite preconceived notions.

Managerial Implications

Due to the COVID-19 crisis, many organisations are abruptly compelled to require managers and employees to work from home. Although working from home (WFH) is not a new phenomenon, COVID-19 has given it a new scale and scope. Considering this, we investigate the effect of WFH during the COVID-19 crisis on changes in leadership behaviours, as well

as associated changes in perceived manager quality and productivity, at various organisational hierarchical levels. Based on the available data, we develop two contradictory hypotheses. On the one hand, implementing WFH may require managers to exhibit less direction and control, as well as more delegation. In contrast, research into the effects of exogenous disruptions such as COVID-19 indicates that managers may become more controlling and delegate less. We discover, in accordance with the first hypothesis, that managers believe they execute significantly less control and delegate more. Employees perceive a significant decrease in control but perceive no change in delegation on average. In addition, and consistent with the second prediction, employees of lower-level administrators report a substantial decrease in delegation. Lastly, our results indicate that increased delegation is associated with higher perceived manager quality and increased perceived productivity. Together, these findings imply that, in the context of the COVID-19 crisis, the effectiveness of WFH may be hindered by the fact that required changes in leadership behaviours, particularly delegation, are challenging to implement during times of crisis.

Concluding Observations

The practise of working from home every day of the week is not recommended. Instead, when making this decision, consider the nature of the task. The company should maintain this option so that employees can make informed decisions, thereby enhancing work-life balance. The organisation must achieve a balance between office-based and remote employment. The remainder of the week should be spent in the office. This enables the company to benefit from both telecommuting and the innovative partnerships that result from collaboration and peer engagement.

Through this study, it was determined that IT employees are overwhelmingly in favour of incorporating the concept of “working from home” into their organisational structure and management practises. We also determined that the employees evaluated the advantages and disadvantages of telecommuting similarly to their western counterparts. Most of them chose to work from home because they believed it would allow them to establish a better balance between their professional and personal lives, as well as save them time that would have been spent on

travel and informal conversations with co-workers. They concurred that it was a “green concept” because it always led to less pollution and a clearer environment.

As a disadvantage of working from home, the lack of communication and collaborative sessions with colleagues, superiors, and subordinates was mentioned. Employees were adamant about refusing to telecommute in exchange for a reduced salary. In conclusion, technological advancements, an emphasis on efficiency and reduced stress make it suitable for the current Indian work environment, and it should be considered a viable option in businesses where the nature of the position permits “working from home”.

Recommendations to Address WFH Challenges:

1. Provide necessary technology: Organizations should provide remote workers with necessary technology and tools, such as laptops, software, and stable internet connectivity.
2. Foster communication and collaboration: Organizations should establish clear communication channels and foster a culture of collaboration to ensure effective communication and collaboration among remote workers.
3. Encourage social interaction: Organizations should encourage social interaction among remote workers through virtual social events and team-building activities to prevent feelings of isolation and loneliness.
4. Establish clear work boundaries: Organizations should establish clear work boundaries, such as working hours and communication protocols, to prevent distractions and promote work-life balance.
5. Provide support and feedback: Organizations should provide remote workers with regular support and feedback to ensure accountability and motivation.

WFH presents several challenges and issues that organizations must address to ensure effective remote work. By providing necessary technology, fostering communication and collaboration, encouraging social interaction, establishing clear work boundaries, and providing support and feedback, organizations can address WFH challenges and create a productive and healthy remote work environment.

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