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A STUDY OF AWARENESS FOR
GREEN MARKETING AND SUSTAINABLE DEVELOPMENT

Dr. Dinesh Kumar*
Ms. Rakhi Singla**
Ms. Maya Rani***

ABSTRACT

Green marketing and sustainable development are two closely related concepts that have gained significant attention in recent years due to the pressing need to address environmental concerns. Green marketing refers to the development and promotion of environmental friendly products and services, while sustainable development is a broader concept that involves creating economic, social, and environmental conditions that meet the needs of the present without compromising the ability of future generations to meet their own needs. Green marketing has become an important tool for companies looking to demonstrate their commitment to sustainability and differentiate themselves from their competitors. Sustainable development, on the other hand, requires a systemic shift in the way we approach economic growth and development. It involves balancing the needs of economic growth, social progress, and environmental protection in a way that is mutually beneficial.

***KEYWORDS**: Green Marketing, Commitment, Environmental friendly, Future Generation, Growth.*

Introduction

Green Marketing has become very popular in today's business world. It involves promoting products and services that are environmentally friendly and sustainable. Companies that embrace green marketing have a competitive advantage in the market, as consumers are becoming more aware of the need for sustainable development. This paper examines the concept of green marketing, its significance in promoting sustainable development, and the challenges faced by businesses in adopting this marketing strategy.

Green marketing refers to the process of promoting products and services that are environmental friendly. It involves incorporating environmental considerations into the marketing mix, including product design, packaging, pricing, promotion, and distribution. The goal of green marketing is to increase the demand for sustainable products and services, thereby reducing the negative impact of businesses on the environment. Green marketing has gained significant momentum in recent years due to increasing public awareness of environmental issues, such as climate change, pollution, and resource depletion.

Objective of the Study

The objective of the above study is to provide a comprehensive understanding of green marketing and sustainable development. The study aims to explore the relationship between these two concepts and highlight their significance in addressing environmental challenges. The study also aims to emphasize the importance of avoiding greenwashing and promoting genuine sustainability in marketing efforts. Additionally, the objective is to emphasize the need for a systemic shift towards sustainable development, involving the active participation of all stakeholders. By achieving these objectives, the study intends to contribute to knowledge and awareness regarding the role of green marketing and sustainable development in promoting a more sustainable future for society and the environment.

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Literature Review

Green Marketing and sustainable development are two concepts that are closely related and have gained significant attention in recent years. Green marketing involves promoting products and services that are environmentally friendly and sustainable, while sustainable development aims to meet the needs of the present generation without compromising the ability of future generations to meet their own needs. This literature review examines the existing research on green marketing and sustainable development, including their definition, significance, and challenges.

Research Methodology

The research methodology for a research paper on green marketing and sustainable development based on secondary data would involve conducting a systematic review of the existing literature on the topic. This would involve identifying relevant academic journals, industry reports, and government publications, conducting a comprehensive search using various databases, screening articles for relevance based on inclusion and exclusion criteria, extracting and synthesizing data using a systematic approach.

Green marketing is an essential aspect of sustainable development, as it refers to the marketing of environmentally friendly products and services that promote sustainable development. It is a vital tool for businesses to respond to the growing environmental concerns of consumers and the need to reduce the negative impact of their operations on the environment.

The significance of green marketing in sustainable development can be understood in several ways:

- **Promoting Environmental sustainability**: Green marketing promotes the use of environmentally sustainable products and services, which reduces the negative impact of businesses on the environment. For example, companies like Patagonia, Tesla, and Adidas have adopted sustainable practices and green marketing strategies to promote environmentally sustainable products and reduce their carbon footprint.

- **Meeting consumer demands**: With increased awareness of environmental issues, consumers are becoming more conscious of the environmental impact of their purchases. They are seeking out eco-friendly products and services and are willing to pay a premium for them. Green marketing allows businesses to respond to this demand and gain a competitive edge by promoting eco-friendly products and services for the sake of future generation.

- **Enhancing Brand reputation**: Green marketing can also enhance the reputation of businesses and strengthen their brand image. By promoting environmentally sustainable practices and products, businesses can demonstrate their commitment to social responsibility and environmental sustainability. This can attract socially conscious customers and help build a loyal customer base.

- **Complying with regulations**: Governments worldwide are introducing regulations to reduce the negative impact of businesses on the environment. Green marketing can help businesses comply with these regulations by promoting environmentally sustainable practices and products.

- **Stimulating innovation**: green marketing can stimulate innovation by encouraging businesses to develop new and environmentally sustainable products and services. For example, companies like IBM, Intel, and HP have developed environmentally sustainable products, such as eco-friendly servers and energy-efficient computers, by adopting green marketing strategies.

Green Marketing is significant for sustainable development as it promotes environmental sustainability, meets consumer demands, enhances brand reputation, complies with regulations, and stimulates innovation. The examples of companies like Patagonia, Tesla, Adidas, IBM, Intel, and HP demonstrate the effectiveness of green marketing in promoting sustainable development.

Green marketing can have a significant impact on achieving Sustainable Development Goals (SDGs) established by the United Nations in 2015. The SDGs are a set of 17 goals aimed at ending poverty, protecting the planet, and promoting prosperity for all.

Green marketing can contribute to achieving the following SDGs:

- **Goal 7**: Affordable and Clean Energy: Green marketing can promote the use of renewable energy sources and energy-efficient products, leading to reduced carbon emissions and greater energy efficiency.

- **Goal 9:** Industry, Innovation, and Infrastructure: Green marketing can encourage innovation in sustainable products and services, leading to the development of new technologies that can promote sustainable development.
- **Goal 11**: Sustainable Cities and Communities: Green marketing can promote sustainable urbanization by encouraging the use of eco-friendly products and services, leading to reduced pollution and better living conditions.
- **Goal 12:** Responsible Consumption and Production: Green marketing can promote responsible consumption and production by encouraging the use of eco-friendly products and services, leading to reduced waste and better resource management.
- **Goal 13**: Climate Action: Green marketing can promote climate action by encouraging the use of environmentally sustainable products and services, leading to reduced carbon emissions and the preservation of the environment.

Leading the charge in encouraging sustainable development and green marketing are a number of nations. Among the nations actively encouraging sustainable practises and putting regulations and initiatives to boost green marketing into practise are Denmark, Sweden, Germany, Japan, and the United States. These nations have enacted energy-efficient building regulations, promoted renewable energy, set goals to minimise greenhouse gas emissions, and supported eco-labelling and environmentally friendly transportation. Despite the fact that some nations are more developed than others, their initiatives can serve as a model for other nations to encourage sustainable practises and accomplish the Sustainable Development Goals. Leading the charge in encouraging sustainable development and green marketing are a number of nations. The United States, Denmark, Sweden, Germany, Japan, and other nations actively promote sustainable practises and carry out legislation and projects.

Barriers in the way of Green Marketing and Sustainable Development

- **Lack of awareness**: Many consumers may not be aware of the environmental and social benefits of sustainable products and practices. For example, some consumers may not know that using energy-efficient light bulbs can save them money on their electricity bill and reduce their carbon footprint. The main reason for the barriers to green marketing in India is the limited awareness and understanding of environmental issues among the population, which makes it challenging for businesses to promote sustainable products or services, justify the costs associated with sustainability, and generate demand from consumers.
- **High cost**: Sustainable products can be more expensive than traditional products, making it difficult for some consumers to afford them. For example, an electric car can be more expensive than a gasoline-powered car, even though it has lower emissions.
- **Limited availability:** Sustainable products and services may not be widely available in all areas, making it difficult for some consumers to access them. For example, some rural areas may not have access to public transportation or recycling facilities.
- **Resistance to change**: Some businesses may be resistant to adopting sustainable practices if they see them as a threat to their profits. For example, a company that produces single-use plastic products may be reluctant to switch to sustainable alternatives if they believe it will negatively impact their bottom line.
- **Lack of Government support**: Governments play an important role in promoting sustainable practices by implementing policies and regulations that encourage sustainability. For example, a government may provide tax incentives to businesses that invest in renewable energy or implement energy-efficient practices.
- **Greenwashing**: Some companies may falsely advertise their products and services as sustainable, misleading consumers and undermining the credibility of genuine sustainable practices. For example, a company that claims their product is "eco-friendly" without any evidence to support this claim is engaging in greenwashing.
- **Infrastructure and Supply Chain Issues**: Developing countries often lack the necessary infrastructure and supply chain to support the production and distribution of green products. This can result in a limited availability of green products and higher prices due to the costs associated with transporting and distributing them.
- **Cultural and social barriers**: it can present challenges to the adoption of green marketing and sustainable practices in developing countries. In some cultures, there may be a preference for

products that are seen as luxurious or prestigious, even if they are not environmentally friendly. For example, in some countries, owning a car is seen as a status symbol, and consumers may not be willing to switch to more sustainable modes of transport such as cycling or public transportation. In many developing countries, consumers may not trust green products due to a lack of understanding or a history of poor-quality products. They may be more likely to stick to familiar brands, even if they are not environmentally friendly

- **Social Norms**: Social norms can also present barriers to the adoption of sustainable practices. For example, in some cultures, there may be a reluctance to recycle or compost due to concerns about cleanliness or hygiene.

In spite of these challenges the future of green marketing on sustainable development looks promising, with many experts predicting continued growth and progress in the years ahead.

Here are some key factors that will shape the future of green marketing on sustainable development:

- **Consumer Demand**: As consumers become more aware of environmental issues and the importance of sustainability, they are likely to demand more sustainable products and services. This will drive companies to adopt more sustainable practices and develop more sustainable products.

- **Technology**: Advances in technology will continue to make sustainable practices more efficient and cost-effective. For example, improvements in renewable energy technology are making it more competitive with fossil fuels.

- **Government Policies**: Governments will continue to play a crucial role in promoting sustainable practices by implementing policies and regulations that encourage sustainability. This will create an enabling environment for businesses to adopt more sustainable practices. International agreements, such as the Paris Agreement on climate change, will encourage countries to work together to achieve sustainability goals. This will create a global framework for sustainable development.

- **Innovation**: Innovation will drive the development of new sustainable products and services. For example, companies are exploring new materials and production methods that reduce waste and emissions.

Overall, the future of green marketing on sustainable development is likely to be characterized by continued growth, innovation, and progress toward a more sustainable future. However, there will also be challenges to overcome, such as the need for greater public awareness and government support.

Conclusion

In conclusion, green marketing has a significant role to play in promoting sustainable development by encouraging businesses to adopt more sustainable practices and by creating greater awareness among consumers about the environmental and social impact of their choices. However, there are also challenges that need to be addressed, such as high costs, limited availability, resistance to change, and greenwashing. Despite these challenges, the future of green marketing on sustainable development looks promising, with continued growth and progress expected in the years ahead.

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EFFECT OF INNOVATIVE TEACHING ON DIVERSE STUDENT PERFORMANCE

Dr. Deeksha Chandawat*

ABSTRACT

The study employs a mixed-methods approach, combining quantitative data analysis and qualitative interviews. Data was collected from a representative sample of students across different disciplines and backgrounds. Innovative students were identified based on their participation in entrepreneurship programs, research projects, or initiatives that showcase creativity and problem-solving skills. Quantitative analysis reveals a positive correlation between the presence of innovative students within a diverse academic community and the overall academic performance of their peers. Innovative students tend to foster a culture of collaboration and intellectual curiosity, thereby creating a more stimulating learning environment. Qualitative interviews with both innovative and non-innovative students shed light on the mechanisms through which innovative students influence their peers. Themes emerging from the interviews include knowledge sharing, inspiration, and the cultivation of critical thinking skills. However, the study also identifies potential challenges and limitations associated with the presence of innovative students. These challenges include disparities in resources and opportunities, as well as the need for ongoing support to ensure equitable access to Innovation-driven experiences for all students. The study has limitation also and uses IBM SPSS Software for analysis. This research paper attempts a regression analysis for hypothesis testing. In conclusion, this research contributes to our understanding of the dynamics between innovative and diverse student populations within higher education. It suggests that innovative students can have a positive impact on the academic performance of their peers, but attention must be paid to addressing disparities and ensuring that the benefits of innovation are accessible to all students, regardless of their backgrounds. The findings have implications for curriculum design, support services, and institutional policies aimed at fostering inclusive and innovative learning environments. Further research is needed to explore these dynamics in greater depth and across various educational contexts.

KEYWORDS: *Innovative, Teaching, Learning, Students, Diverse.*

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Introduction

The global marketplace is becoming more competitive. People struggle to learn and work hard to create a new learning environment. The goal of education is to teach students not only the text books but also to foster innovative thinking, a creative environment, and self-sufficiency. Educational paradigms have shifted in recent decades as a result of global trends in cultural and economic development. Along with these reforms, changes have been made in how academic professionals or educators create curriculum. Learner-centered and problem-centered methods are frequently cited as having greater transmission potential than subject-centered methods. Combining various digital media types, such as text, images, audio, and video, into a multi-sensory interactive application or presentation to convey

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information to the audience, is one example of an innovative teaching method. Student engagement in education refers to students' attention, curiosity, interest, optimism, and passion when learning or being taught, as well as their motivation to learn and progress in their education. Students learn and retain more when they are actively engaged in the lesson.

Innovative teaching means a teacher's creativity and novelty, which alters the learning style and approach. Educational institutions around the world are implementing new ideas, methods, and technological innovations to improve students' knowledge. Innovative teaching is required for the present and future of education to assist students in reaching their full potential. Students' long-term intellectual needs should be met through higher education.

According to Anderson and Neri (2012), Virtual labs, learning activities based on actual problems, learning environments with furniture, supplies, and audiovisual resources, and lesson plans for teachers and students are all examples of innovative teaching. All of this is combined with methodologies that help teachers improve students' learning abilities by utilising active teaching techniques. Teachers should know and respect their students; provide flexibility, variety, and choice to their students; establish clear expectations; use accessible language; scaffold students' learning; be available and approachable to guide student learning; and be a reflective practitioner.

Review of Literature

There have been a number of studies conducted on the topics of innovation and creativity. The purpose of this research is to fill a gap in the literature by investigating the variables that are influenced by innovation learning practices. Innovative teaching methods are those that go beyond traditional teaching methods, such as lectures and memorization. They involve the use of technology, group work, project-based learning, and other approaches that are student-centered and interactive. These methods have been shown to be effective in improving the performance of diverse students. Research has shown that innovative teaching methods can help students learn better, retain more information, and develop critical thinking skills. The introduction of novel ideas, goods, or behaviours by a person or group within a specific social system (Rogers and Shoemaker, 1971, cited by Kohler, Boissonmade, & Giglio, 2015) is an example of innovation.

Creativity, according to Runo (2007), is a distinctively human characteristic that represents our capacity to adapt to changing circumstances as well as our effective cognitive skills to integrate and build upon ideas that we have exposed to through time.

Furthermore, creativity generates actionable ideas such as new thoughts, new designs, and new possibilities, whereas innovation adds value to new goods by introducing new features (olatoye, Akintunde, & Ogunsanya, 2010).

Scope of the Study

The study is confined to innovative learning designs for students' success to suggest various measures and tools for their successful growth and development.

Objectives of the Study

- To Examine the types of innovative learning style
- To study the innovative teaching and learning and different types of teaching methods.

Research Hypothesis

The purpose of this research paper is to better understand how innovative teaching influences the performance of a diverse group of students. The following is the research hypothesis:

H_0: There is no negative relationship between students' diversity and their performance.

H_a: There is negative relationship between students' diversity and their performance.

Assumptions of the Study

The following assumptions were made for the study:

- The population of the study is normally distributed, and respondents are expected to respond objectively.
- Good practices and a wide variety of innovative teaching methods are being used to teach diverse students.
- Teachers are properly trained and aware of innovative teaching strategies in universities.
- Teachers are skillful in dealing with a diverse classroom at a higher education level.

Limitations of the Study

- Only the public and private universities in Jaipur are allowed to conduct the research.
- Only postgraduate students and teacher are allowed to engage in the study.

Research Methodology

The present research is quantitative in nature. To determine the answers to the hypothesis, a survey was carried out. Two public and two private universities were chosen using stratified random sampling. 200 teachers in total (50 from each university) were sampled. Data were gathered, tabulated, and analyzed for the research. For statistical analysis, SPSS (version 23) had been used. Hierarchical regression was used to examine the moderating impact of innovative teaching on the academic performance of a diverse group of students.

Methods of Innovative Teaching Style

Innovative teaching styles go beyond traditional methods to engage students, promote critical thinking, and foster creativity. Here are some methods of innovative teaching that might be useful:

- **Collaborative Learning:** Encourage students to work together on tasks, projects, or assignments. Collaborative learning promotes teamwork, communication skills, and diverse perspectives.

- **Design Thinking:** Incorporate design thinking principles into your teaching. Encourage students to empathize, define problems, brainstorm solutions, prototype, and iterate. This approach fosters creativity and problem-solving skills.

- **Socratic Seminars:** Engage students in open-ended discussions where they analyze complex questions, explore various viewpoints, and develop their critical thinking and communication skills.

- **Technology Integration:** Use various technological tools such as educational apps, interactive simulations, virtual reality, and online collaboration platforms to enhance learning experiences and engage students in different ways.

- **Storytelling:** Weave narratives or real-life stories into your teaching to make the content more relatable and memorable. Storytelling captures students' attention and helps them connect with the material emotionally.

- **Mindfulness and Reflection:** Integrate mindfulness exercises and reflective practices into the classroom routine. This can help students focus, reduce stress, and enhance self-awareness.

- **Peer Teaching:** Allow students to take turns teaching their peers on specific topics. This not only reinforces their understanding but also encourages active engagement and collaboration.

- **Service Learning:** Combine community service with classroom learning. Students address real community needs while applying academic concepts to solve problems in the real world.

- **Art and Creativity Integration:** Incorporate arts, music, drama, and other creative mediums to explore and communicate complex concepts in unique ways.

- **Global and Cultural Perspectives:** Introduce diverse perspectives and global issues into your teaching. This promotes empathy, understanding, and prepares students for a multicultural world.

The most effective teaching style depends on the subject matter, the needs of students, and own teaching philosophy. Being open to experimenting with different methods and continuously seeking feedback from students can help refine your approach over time.

Challenges

While the presence of innovative students can have numerous positive effects on a learning environment, it's essential to recognize that there are also limitations and challenges associated with their presence. Here are some key limitations:

- **Unequal Distribution**: Innovative students are not evenly distributed across all classrooms or educational settings. Some classrooms may have a higher concentration of innovative students, while others have fewer or none at all. This uneven distribution can lead to disparities in the educational experiences of students.

- **Potential for Isolation**: Innovative students might feel isolated or unsupported in traditional classrooms that do not cater to their unique learning needs. They may require more advanced or challenging materials, and if not adequately addressed, this can lead to disengagement and underperformance.

- **Teacher Preparedness**: Teachers may not always be prepared or trained to effectively engage and challenge innovative students. This can result in missed opportunities to harness the full potential of these students, leaving them bored or unstimulated in the classroom.

- **Peer Pressure**: Innovative students may experience social pressure or even bullying from their peers, especially if their creative or unique ideas are seen as unconventional or different. This can hinder their ability to freely express their creativity.

- **Resource Allocation**: Schools and educational institutions may need to allocate additional resources to support innovative students adequately. This could include advanced materials, specialized programs, or additional teacher training. In some cases, these resources may not be readily available, leading to a lack of support for these students.

- **Inclusive Challenges:** While innovative students can positively impact their peers, fostering inclusivity can be a challenge. Other students may feel left out or overshadowed by the more innovative ones, potentially leading to feelings of inadequacy or discouragement.

- **Burnout:** Innovative students may face burnout if they are constantly expected to perform at a high level or provide creative solutions. This pressure can take a toll on their mental and emotional well-being.

- **Lack of Alignment with Standardized Testing**: Traditional standardized tests may not effectively measure the abilities and potential of innovative students, which can result in these students being inaccurately assessed or undervalued.

Innovative Learning Methods

Innovative learning models refer to novel and creative approaches to education and learning that depart from traditional methods. These models often leverage advancements in technology, cognitive science, and pedagogical research to create more engaging, personalized, and effective learning experiences. Here are a few examples of innovative learning models:

- **Blended Learning:** This model combines traditional classroom instruction with online learning components. Students engage in both in-person and digital activities, allowing for flexibility and personalized pacing. It's a hybrid approach that aims to optimize the benefits of face-to-face interactions and online resources.

- **Flipped Classroom:** In a flipped classroom, students consume instructional content (like video lectures) outside of class, freeing up in-person time for discussions, problem-solving, and collaborative activities. This model places the focus on active learning during class time.

- **Project-Based Learning (PBL):** PBL involves students working on real-world projects that require them to apply their knowledge and skills to solve complex problems. This approach fosters critical thinking, teamwork, and practical application of concepts.

- **Gamification:** Gamification integrates game design elements into educational experiences to enhance engagement and motivation. It can involve point systems, leaderboards, badges, and challenges that make learning more interactive and enjoyable.

- **Personalized Learning:** This model tailors instruction to each student's individual needs, interests, and learning pace. Adaptive learning technology and data analytics play a crucial role in assessing a student's progress and adjusting content accordingly.

- **Virtual Reality (VR) and Augmented Reality (AR) Learning:** Immersive technologies like VR and AR provide learners with realistic and interactive environments for exploration and experimentation. They are particularly effective for subjects that require visualization and spatial understanding.

- **Social Learning Networks:** Online platforms that facilitate social interaction and collaboration among learners can enhance the learning experience. These networks encourage knowledge sharing, discussions, and peer-to-peer support.

- **Neuroeducation:** This approach combines insights from neuroscience and education to develop strategies that optimize learning based on how the brain processes information. It can lead to improved instructional methods and better retention.

- **Experiential Learning:** Experiential learning emphasizes hands-on experiences and learning through direct engagement with the subject matter. Activities like field trips, simulations, and real-world application are central to this model.

- **AI-Driven Learning:** Artificial intelligence can analyze student data and behaviors to provide personalized recommendations, feedback, and content. AI-powered systems adapt to individual learning styles and preferences.

These innovative learning models reflect the evolving nature of education in response to the changing demands of the modern world. They aim to create more effective, engaging, and learner-centered educational experiences.

Analysis and Discussion

The analysis of the effect of innovative teaching on diverse students' performance involves examining how the implementation of creative and novel teaching methods impacts students from different backgrounds, abilities, and learning styles. This analysis can provide insights into whether innovative teaching approaches lead to improved academic outcomes and a more inclusive learning environment.

Hypothesis Testing

Table 1

Model	Unstandardized coefficients		Standardized coefficients	*T*	*P*
	B	*SE*	β		
(Constant)	3.040	0.387		7.846	<.001
Diversity	−0.374	0.076	0.073	2.977	.030
(Constant)	0.914	1.013		.902	.368
Diversity	−0.083	0.201	0.374	1.908	.058
Innovating teaching	1.262	0.438	1.799	2.881	.004

Note. Dependent variable: performance perception

The performance of students is not negatively correlated with their diversity. The diversity of students' backgrounds and their academic performance are not moderated by innovative teaching. Table 1's high negative value of 0.374 demonstrates that the performance is significantly impacted by the diversity of the student body of students, but despite being low, this value has been reduced by using cutting-edge teaching strategies. So, that the both theories are disproven. This states unequivocally that if Teachers use cutting-edge teaching techniques, are able to effectively address the diversity of their students, and can improve their performance. Table 1 further demonstrates this it displays the number of inquiries on creativity, diversity, and effectiveness.

Results

The results showed that the group taught using innovative teaching methods performed better than the group taught using traditional teaching methods. The students taught using innovative teaching methods scored higher on the post-tests and reported a higher level of engagement and satisfaction with the teaching methods. The results also showed that certain innovative teaching methods were more effective for diverse students than others, such as project-based learning and technology-enhanced learning.

Discussion

The findings of this study have significant implications for educators. Innovative teaching methods can help improve the performance of diverse students, and educators should consider incorporating these methods into their teaching practices. The study also highlights the importance of using specific innovative teaching methods that are effective for diverse students, such as project-based learning and technology-enhanced learning. Educators should be mindful of the diverse backgrounds and learning needs of their students and adapt their teaching methods accordingly.

Conclusion

In conclusion, this study shows that innovative teaching methods can have a positive impact on the performance of diverse students. The findings suggest that educators should consider incorporating innovative teaching methods into their teaching practices, and that certain methods are more effective for diverse students than others. Further research is needed to explore the specific mechanisms through which innovative teaching methods improve the performance of diverse students.

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A REVIEW OF IMPACT OF CHAT GPT AND AI IN ACCOUNTING

Dr. Ritu Sharma*

ABSTRACT

The chatbot ChatGPT, which uses artificial intelligence to interpret queries and orders and deliver intelligible, sometimes even human-like responses, has gained attention from all around the world. It's a machine learning model created by OpenAI that can produce text that sounds like human speech and can help CPAs and accountants with a range of jobs. Recent years have witnessed a number of technical developments in the accounting sector, with artificial intelligence (AI) having a substantial impact on how accountants work. Modern language model ChatGPT is one AI-driven technology that's gaining popularity in the industry. Businesses are developing new ways to integrate artificial intelligence (AI) technology into their daily operations as it develops. Accounting is one industry where AI can be especially helpful. The purpose of this research is to examine how AI and Chat GPT affect accounting.

***KEYWORDS**: ChatGPT, Artificial Intelligence (AI), CPA.*

Introduction

Chat GPT, also known as "Generative Pre-trained Transformer," is a particular kind of AI model that is applied to natural language processing (NLP). A language model known as the Generative Pre-Trained Transformer (GPT) is able to produce response text that is almost identical to the language used by people (Dale, 2021). Using algorithms to analyze and understand human language, such as text and speech, in order to extract meaning and extract helpful information is known as natural language processing (NLP), and it is a subfield of artificial intelligence. (Manning & Schutze,1999). OpenAI, a preeminent artificial intelligence research group, created Chat GPT to enhance natural language processing. It expands on the idea of pre-training, which entails building a model on a substantial dataset in order to identify linguistic links and patterns. A model can be fine-tuned for certain tasks, like translation or language synthesis, by pre-training it on a vast amount of text data. Natural language processing has advanced significantly since Chat GPT's creation, and as a result, a number of different sectors have used it widely. One sector where AI can be very useful is accounting. Artificial intelligence (AI) has significantly changed how accountants work, and the accounting sector has recently experienced a number of technical improvements. ChatGPT and accountants together have the potential to significantly improve the accounting sector. By utilizing AI, accountants can increase their clients' value while increasing their own efficiency, accuracy, and decision-making. Accounting professionals may keep on top of the fast changing financial world and secure a prosperous future by embracing ChatGPT and other AI-driven technology.

Objectives of the Study

The objectives of the study are as follows:

* To study about ChatGPT and AI.
* To research the role of ChatGPT and AI in accounting.
* To analyze the impact of ChatGPT and AI on accounting.

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Research Methodology

- **Type of Research:** Descriptive/Expressive Research
- The collection of data consists of a secondary method of data collection. The secondary data is collected from most of the research papers, journals and articles on the concerned topic.

Literature Review

An Internet-based computer software called a "chatbot" is made to mimic conversations with real people. (King, 2022). Based on the GPT language model technology, ChatGPT is a free tool created by OpenAI (Kirmani, 2022). While GPT technology is an effective tool for applications involving natural language processing, it is not without its drawbacks. One of the major drawbacks is that GPT models rely on a statistical method that extracts patterns from a sizable body of text, which can reinforce prejudices and stereotypes already existing in the data (Dale, 2017; Lucy & Bamman, 2021). By utilizing its vast data stores and effective architecture, ChatGPT is able to comprehend and interpret user requests while also producing appropriate responses in almost natural human language. In addition to its useful uses, ChatGPT represents a significant advancement in the fields of natural language processing and artificial intelligence due to its capacity to produce human-like language and finish challenging tasks. A research facility called OpenAI was established in 2015 (Brockman et al., 2016). This lab has made quick strides in the creation of AI technology and has made available to the public several machine learning products, such as DALL-E and ChatGPT. (Devlin etal., 2018). It is a very intelligent chatbot that can respond to a variety of text-based requests, including simple questions and more difficult ones like writing thank you letters and assisting people in difficult conversations regarding productivity problems. (Liu et al., 2021). De Angelis et al. (De Angelis et al., 2023) explored potential ethical and practical difficulties in medicine and public health while highlighting the examination of language models in light of ChatGPT. The most significant difficulties are the potential for AI-driven misinformation or a "infodemic" that is frequently challenging to distinguish. Bang et al. (Bang et al., 2023) evaluated ChatGPT's performance on ten reasoning tests, including logical reasoning and common sense reasoning. The researchers discovered that ChatGPT does very poorly on inductive reasoning tasks but does okay on deductive reasoning questions. Additionally, ChatGPT performs well when using common sense.

Features of ChatGPT

Chat GPT, an AI tool, possesses several notable features.

- **Robotic Conversations:** Users can communicate with a chatbot without the assistance of a human operator thanks to Chat GPT's autonomous conversational capabilities. Based on trends and connections in the data it has been educated on, the system may produce solutions fast and precisely. When a company or organization needs automated customer support or language translation services, this solution is effective.

- **Skills Development and Training:** Professionals can utilize ChatGPT as a training resource as well. It can replicate real-world situations, let users practice their skills, and provide them performance feedback. Users who use this tool will be better able to stay current on industry advancements and will have an improved learning experience.

- **Enhanced Client Services:** By delivering prompt and correct answers to consumer inquiries, Chat GPT may dramatically enhance customer service. Users may quickly get the assistance they require, which can boost customer satisfaction and loyalty.

- **Budget-Friendly Approach:** Being able to conduct customer care interactions through Chat GPT saves money because it does not require hiring human operators. Businesses that handle a high amount of customer support inquiries, in particular, may see significant cost reductions as a result of this.

- **Processing of Natural Language:** To comprehend real language and respond appropriately, Chat GPT use natural language processing techniques. This makes it a highly intuitive tool for users since it can understand and react to user inquiries in a way that mimics human interaction.

- **Adaptive Responses:** By keeping track of user preferences and customizing its responses accordingly, Chat GPT may offer tailored responses. Users may find this feature to be more engaging and fulfilling as a result of their perception that the system can comprehend and cater to their particular demands.

- **Customizability:** By altering its training data and algorithms, ChatGPT can be made specifically for certain activities or applications. This adaptability enables companies and organizations to simultaneously customize Chat GPT's responses to their unique demands.

- **Scalability:** Due to Chat GPT's tremendous scalability, it can manage numerous conversations at once after being taught. This makes it perfect for use in large-scale applications because it can swiftly and effectively analyze a lot of information.

- **Language conversion:** Chat GPT is an effective tool for international communication since it can convert text between several languages. The tool makes it simple and effective for users to communicate across language barriers by precisely translating text in real time (Else, H. 2023).

Role of Chat GPT and AI in Accounting: Shaping the Accounting Industry

The introduction of Chat GPT in accounting represents a profound shift in the way the sector functions. The management of financial records has traditionally been handled by accountants through manual data entry, spreadsheet analysis, and laborious audits. Accounting staff must devote a large amount of time and effort to management in order to process invoices and classify expenses. The accounting sector is now relying on AI-powered products like Chat GPT for accounting to automate many of these operations, however, as a result of technological advancements. The chatbot is made to assist business owners and accountants in precisely and efficiently managing their financial data.

USES FOR CHAT GPT IN ACCOUNTING

Impact of ChatGPT and AI in Accounting: Advantages

- **Enhanced effectiveness:** Accountants can now concentrate on more strategic operations because ChatGPT can automate monotonous chores like data entry and simple math. Businesses can automate some of these procedures and save down on the time and labor needed to manage financial data by using Chat GPT.

- **Increased consistency and accuracy:** Even the most thorough accountant can make mistakes because people are fallible. Contrarily, Chat GPT is programmed to process financial data consistently and accurately. Businesses may lower the possibility of errors and guarantee the accuracy and dependability of their financial data by employing Chat GPT for operations like data entry and report preparation.

- **24/7 Availability:** ChatGPT, an AI-powered tool, is available 24/7, allowing customers to get accounting support and advice whenever they need it. Due to this adaptability, accounting professionals are guaranteed access to support even after regular business hours.

- **Analyze Data Automatically:** Accounting professionals frequently feel overpowered by the thought of working with such documents, despite the requirement to analyze enormous amounts of data. Additionally, manual analysis frequently takes a lot of time and has a high risk of mistakes and omissions. ChatGPT can automate data analysis and be a huge time saver for accountants because it can execute computations, statistical analysis, and find trends and patterns in data.

- **Superior Decision-Making:** The capacity of Chat GPT to produce insights and analysis from financial data is one of the main benefits of using it for accounting and finance. Chat GPT is able to spot trends and patterns in vast amounts of financial data that might not be obvious to humans. This can assist organizations in making data-driven, better educated financial decisions.

- **Improved Client Service:** Chat GPT can be used for customer service in addition to internal accounting procedures. Businesses can enhance their customer service by using the chatbot, which can respond in real time to consumer inquiries. As a result, customer care personnel' workloads may be lighter and customer satisfaction may increase.

- **Savings in Cost:** For businesses, using Chat GPT for accounting might provide significant cost savings. Businesses can eliminate the need for human labor and improve their operational efficiency by automating tasks like data entry and report preparation. Saving time, money, and resources can all be a result of this.

- **Create Financial Reports:** Due to the time-consuming process of preparation and the possibility of errors, accountants frequently feel a great degree of frustration when creating financial reports like income statements and balance sheets. But because ChatGPT makes creating financial reports simple, accounting firms may save time and improve accuracy.

- **Helpful in Auditing:** Process auditing can also be done with Chat GPT. The chatbot can scan financial documents and spot discrepancies or errors, enabling accountants to look into and rapidly fix problems. Making ensuring financial records are correct and compliance with legal standards will help with this.

- **Risk Reduction and Compliance:** ChatGPT can assist accountants in maintaining compliance and adhering to legal requirements. It lessens the chance of mistakes and lowers the possibility of compliance concerns by giving accurate information, understanding financial regulations, and providing recommendations on best practices.

- **Strengthening Accounting Education Going Forward:** Chat GPT is used by more than just companies and accounting firms in accounting. Additionally, accounting students can learn via the chatbot. Students can gain a more engaged and interesting understanding of accounting ideas and principles by interacting with Chat GPT. This could enhance their knowledge of accounting and help them get ready for a career in the field.

Limitations of ChatGPT and AI in Accounting

Information access and knowledge sharing have surely been transformed by artificial intelligence (AI) language models like Chat GPT. Some crucial areas where Chat GPT and comparable AI models fall short, advising caution and emphasizing the value of human expertise. While it can provide genuine replies, those reactions are still constrained to a predetermined range of choices, which some users may find limiting and dissatisfying. As an AI language model, Chat GPT might have difficulties with some facets of natural language processing, making it challenging for users to comprehend or interpret its responses. ChatGPT has some restrictions as an AI language model, such as:

- **Recognizing intricate accounting standards:** The Generally Accepted Accounting concepts (GAAP) and Financial Accounting Standards Board (FASB) regulations are only two examples of the many concepts, guidelines, and standards that make up the highly complex US accounting framework. These standards call for in-depth contextual, interpreting, and industry-specific expertise. Despite having access to a wealth of

knowledge, ChatGPT can find it difficult to comprehend the nuanced aspects of US accounting rules. For instance, it might misinterpret some clauses or ignore the particular situations that call for exceptions.

- **Only Slightly Understanding the Context:** A thorough understanding of the context is frequently necessary for accounting conversations, such as the particular industry, the regulatory framework, or the financial ramifications. Despite its ability to produce coherent responses, ChatGPT could not have the contextual understanding necessary to provide proper accounting advice. Without the necessary context, ChatGPT could offer sweeping solutions that are insufficient for the particular issue at hand.

- **Inability to keep up with Evolving Regulations:** Updates and modifications to accounting rules and regulations occur often. For accountants and other financial experts, keeping up with these changes is a huge burden. The knowledge cutoff point in ChatGPT is similar in that it depends on prior information. Because of this, it might not be knowledgeable about current regulatory developments, which makes it less trustworthy to give accurate guidance on current accounting procedures.

- **Limited Financial Data Analysis Skills:** Financial data analysis is a common component of accounting duties, such as income statements, cash flow statements, and balance sheets. The ability of ChatGPT to comprehend and analyze numerical data is restricted, despite the fact that it can understand and produce language. It might have trouble spotting trends, spotting abnormalities, or doing intricate financial computations that are necessary for thorough accounting analysis.

- **Privacy and Data Security:** Concerns about data security and privacy are also raised by the use of AI tools in accounting. To safeguard sensitive financial information from unauthorized access or misuse, organizations need to make sure that effective security measures are in place and that they are in accordance with legal standards.

To solve such issues, nevertheless, and guarantee the proper application of these technologies in the accounting field, thorough deployment and monitoring are necessary.

Future of ChatGPT

ChatGPT has a bright future and a lot of possibilities. ChatGPT is anticipated to advance in sophistication and be able to comprehend and respond to human language more intuitively and nuanced as natural language processing technology continues to advance. This could result in the creation of increasingly more sophisticated chatbots and virtual assistants that can manage difficult tasks and offer tailored recommendations and guidance. Additionally, ChatGPT could develop into an even more potent tool for data analysis, predictive modeling, and decision-making as it continues to learn from the enormous volumes of data it consumes. (Mandelaro, J. (2023). Additionally, there are applications for ChatGPT in areas like education, healthcare, and mental health therapy where conversational agents can be employed to help those in need. ChatGPT has the ability to change how we engage with technology and improve the efficiency of our daily lives as it develops.

Conclusion

An effective tool for accountants is Chat GPT. Businesses may increase accuracy, shorten processing times, and make better financial decisions by utilizing its capacity to process and analyze enormous amounts of financial data. Chat GPT can help organizations save time and money while enhancing customer satisfaction with its capacity to automate tasks and offer customer assistance. Accountants' roles are changing as a result of the automation of mundane work, and they are increasingly serving as strategic advisors to firms. By giving organizations real-time insights, enhancing customer service, and streamlining financial procedures, Chat GPT for accounting is influencing the future of accounting. Accountants cannot be replaced, but Chat GPT may absolutely improve their position and increase the effectiveness of their work. Finally, Chat GPT for accounting is a game-changer for the accounting sector, and companies that use this technology will have an advantage over their rivals. Businesses may speed up their financial operations, save time, and make better decisions based on data insights by utilizing the potential of chatbots.

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ANALYSIS OF THE OPERATING COST PERFORMANCE
(A COMPARATIVE STUDY BETWEEN ERSTWHILE UTI AND UTI MUTUAL FUND)

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ABSTRACT

The Unit Trust of India (referred hereafter as UTI), the first mutual fund in India was established in 1964 by the Unit Trust of India Act, 1963 passed by the parliament under a public sector entity. The main objective of UTI was to mobilising small savings of the country. UTI became the major source of finance to industries in India after the era of the Chinese aggression which led to the share market in depression. UTI had offered various investment plans to citizens of India and distributed crores of rupees to its investors in the form of dividends. In 2002, after the flagship scheme of UTI's Unit Scheme 1964 (US-64) crisis, a new act was passed by the parliament and as per the provisions of this Act, UTI was divided into two separate entity UTI-I and UTI-II. In due course UTI-II was renamed as UTI Mutual Fund.

***KEYWORDS**: Mutual Fund, Public Sector, Mobilising of Savings, Source of Finance, Share Market, Depression, Investment Plans, Dividend, Unit Scheme-1964, Flagship Scheme.*

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Introduction

UTI was having excellent record of distributing higher returns in the form of dividend or capital appreciation to its schemes investors. But in 2001, in a turbulent market, it could not keep higher returns to Unit Scheme 1964 (referred hereafter as US-64)'s investors and there was a big difference between face value and NAV value of the scheme. Besides that UTI had suspended the sale and repurchase of US-64 for six months from July, 2001. The crisis became uncontrollable and beyond the capacity of UTI and the Government of India watched the situation thoroughly and brought bailout package for the benefits of the small investors.

On 15th Jan., 2003, the Government of India had signed an agreement with four sponsors to operational the new Act namely Unit Trust of India (Transfer of Undertaking and Repeal) Act, 2002 (referred hereafter as UTI Repeal Act, 2002). As per the new Repeal Act, all 22 assured schemes were monitored by the government appointed administrative officer and remaining 47 NAV based schemes were managed by UTI Mutual Fund and will be function under the capital market regulator Securities and Exchange Board of India (referred hereafter as SEBI).

Review of Literature

Though many books and articles were written and published in the scope of UTI and UTI Mutual Fund performance. Classification of funds, regulation and problems of mutual funds, legal framework of mutual funds in India and major schemes and turnover or activity performance of UTI Mutual Fund were

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the major aspects of the reviewed studies. Private sector mutual funds have recorded improvements in its profitability, efficiency and growth in Assets Under Management. In another study it was revealed that the assured returns schemes were the reason of worry of UTI. The performance of UTI Mutual Fund is affected by the financial economic environment of India and it confronted investors.

Scope of the Study

The Present study is associated to the operating cost performance of UTI and UTI Mutual Fund (Asset Under Management). This study is based on the annual reports of the both the concerns. The period of study is five years from 1995-96 to 1999-2000 of UTI and from 2013-14 to 2017-18 of UTI MF(AMC). The present study does not cover the profitability and employee performance. However, it may noted here that erstwhile UTI was in most of its working years worked in a monopolistic condition while new UTI Mutual Fund (AMC) in competitive condition.

Objective of the Study

The objectives of the present study are to find out the operating cost performance of UTI and UTI Mutual Fund (AMC) comparatively and to conclude the impact of Unit Trust of India (Transfer of Undertaking and Repeal) Act, 2002 on the working performance of UTI Mutual Fund whether it is working efficiently as compare to erstwhile UTI. The Operating Cost is a key indicator for ascertaining of performance of a company.

Formulation of Hypothesis

In the present study we formulated Hypothesis as follows:

H_0*:*   *UTI Repeal Act, 2002 does not bring any declining in the value of operating cost to investible funds in UTI Mutual Fund.*

H_1*:*   *UTI Repeal Act, 2002 has been a success to bring declining in the value of operating cost to investible funds in UTI Mutual Fund.*

Where, H_0*:* Symbol represent the null hypothesis and H_1 = Symbol represent the alternative hypothesis.

Methodology

The present study is based on the annual reports and various articles published in the news papers and journals on the UTI and UTI MF (AMC). The related data were also taken from the websites of Association of Mutual Fund of India (AMFI) and Securities and Exchange Board of India (SEBI).

Statistical Tools

To find out the operating cost performance of UTI and UTI Mutual Fund (AMC), t-Test and A-Test have been used.

Operating Cost Performance in Unit Trust of India: (During the period from 1995-96 to 1999-2000)

Operating performance of UTI can be measured from gross cost and operating cost incurred by the Trust in scheme operations. The gross cost and operating cost to investible funds are shown in table 1. During the study period, the gross cost continuously increased while in the case of operating cost, it is increased in first three years from 0.70 percent to 0.86 percent and it was declined to 0.80 percent in the fourth year and at end of the 1999-2000 it again increased to 88 percent. Table reveals that staff performance was very excellent as operating costs were below 1 percent to investible funds in UTI.

The operating cost as % of investible funds can be seen in the table 1:

Table 1: **Unit Trust of India**

Operating Cost as % of Investible Funds

Years	Gross Cost	Operating Cost
1995-96	0.80	0.70
1996-97	0.83	0.75
1997-98	0.97	0.86
1998-99	1.01	0.80
1999-2000	1.10	0.88

Source: Unit Trust of India, Annual Report 1999-2000

Cost as % of Investible Funds in Unit Trust of India during 1995-96 to 1999-2000 can be elaborated in the graph 1:

Graph 1: Unit Trust of India

Gross and Operating Cost as % of Investible Funds
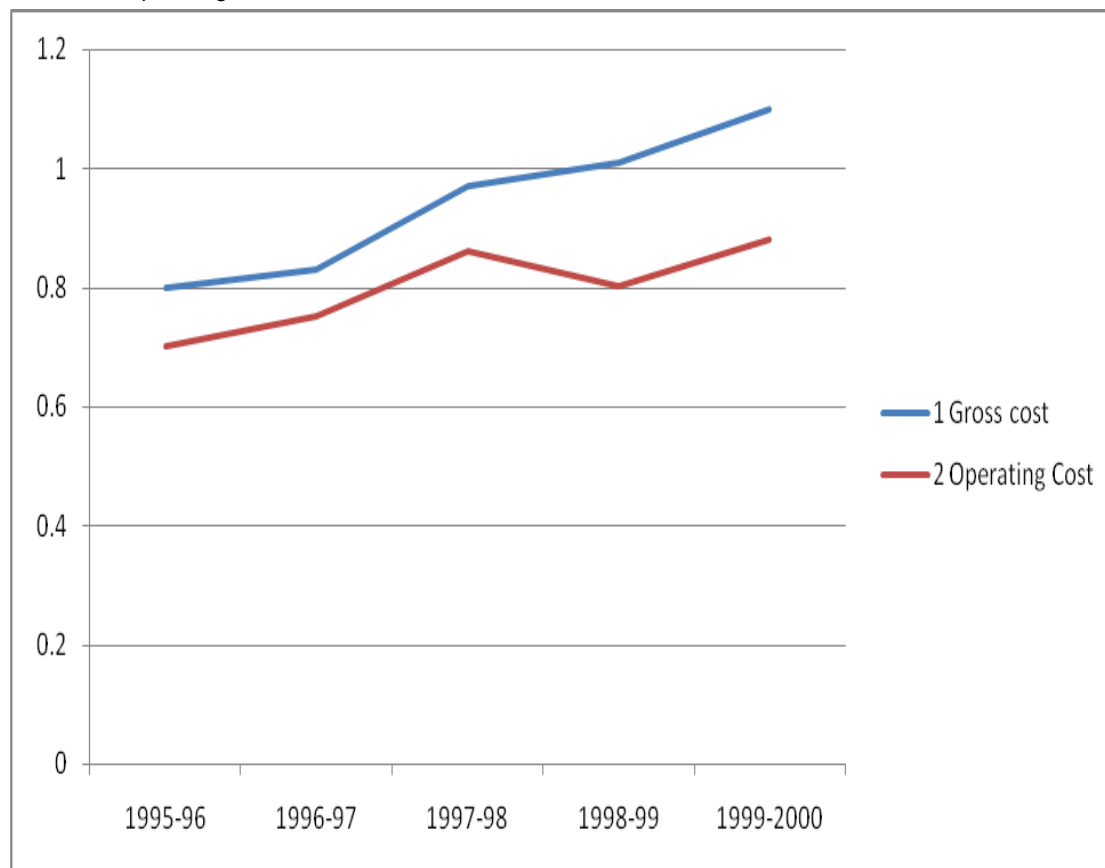
Operating Cost Performance in UTI MUTUAL FUND (AMC):

(During the period from 2013-14 to 2017-18)

Operating cost performance of UTI MF (AMC) can be measured from operating cost incurred by the Trust in scheme operations. The operating cost to investible funds is shown in table 2. During the study period, the operating cost (AMC) is increased from 0.41 percent in 2013-14 to 0.45 percent in 2014-15 and it was declined to 0.43 percent in the third and in the fourth year it was decreased to 0.35 percent. At end of the 2017-18, it again increased to 0.38 percent to the investible funds. Table reveals that operating performance was very excellent as operating costs were below 0.50 percent to investible funds in UTI MF.

The operating cost as percent of investible funds in UTI MF can be seen in the table 2:

Table 2: UTI Mutual Fund

Operating Cost as % of Investible Funds

Particulars	2013-14	2014-15	2015-16	2016-17	2017-18
Operating cost	0.41	0.45	0.43	0.35	0.38

Source: UTI MF (AMC) Audited Financial Statements from 2013-14 to 2017-18

The operating cost as percent to investible funds was lower than as compared to erstwhile UTI in which it was more than 0.50 percent. It reveals that operating performance in UTI MF is better than UTI in terms of operating cost.

Operating Cost as percentage to Investible Funds in UTI MF (AMC) during 2013-14 to 2017-18 can be elaborated in the graph 2:

Graph 2: UTI Mutual Fund

Operating Cost as % of Investible Funds
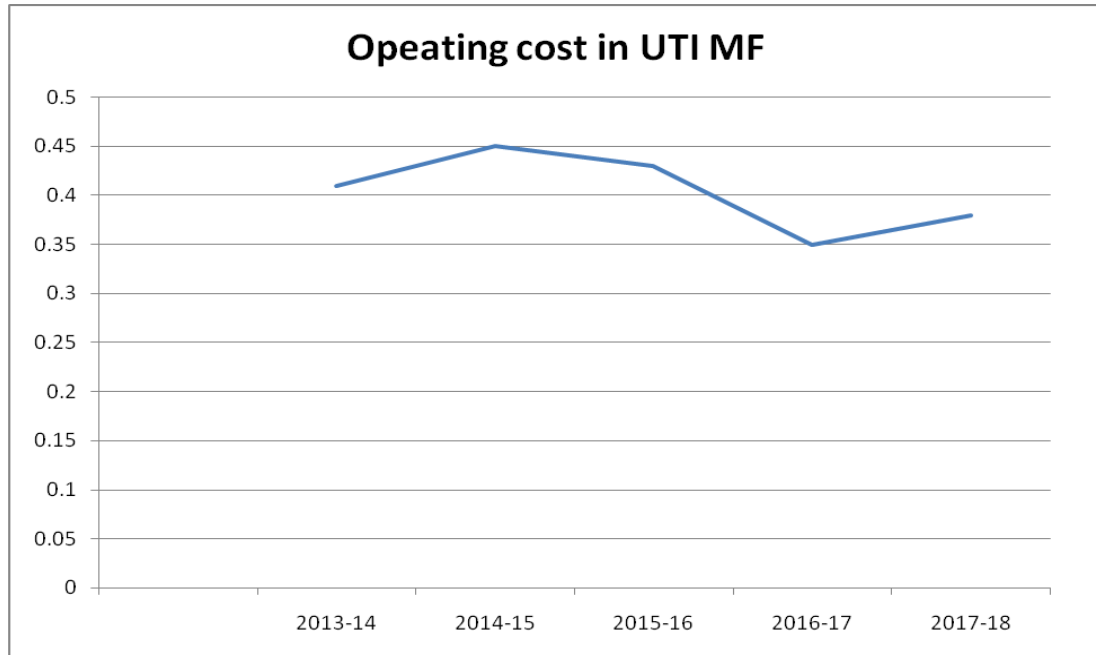
The graph 2 it is observed that operating cost as percent is increased in 2014-15 and 2017-18 and it decreased in 2015-16 and 2016-17.

Testing of Hypothesis of operating cost in UTI and UTI MF (AMC): (T-test)

We can test that whether operating cost to investible funds in UTI MF decreased as compare to UTI after the new Repeal Act, 2002. The level of significance of test is 5 per cent degree of freedom. For answer we can apply T-test.

The operating cost to investible funds figures of UTI and UTI Mutual Fund is shown in the table 3:

Table 3: Operating Cost as % of Investible Funds in UTI and UTI Mutual Fund

No. Of Years (N)	Operating cost to Investible Funds in UTI (%) 1995-96 to 1999-00	Operating cost to Investible Funds in UTI Mutual Fund (%) 2013-14 to 2017-18
1	0.70	0.41
2	0.75	0.45
3	0.86	0.43
4	0.80	0.35
5	0.88	0.38

For testing of above the fact, we may represent operating cost to investible funds in UTI as X and Y for operating cost to investible funds of UTI Mutual Funds. Now we take that the Repeal Act, 2002 does not bring improvement in working performance of new UTI Mutual Fund by way declining of operating cost as the null hypothesis, we can say:

$H_O : \mu_1 = \mu_2$ and it is similar to $H_O : \overline{D} = 0$

$H_1 : \mu_1 < \mu_2$ (it is to justify that the new Act, 2002 is a successful step.

The formula of T- test is:

$$t = \frac{\overline{D} - 0}{\sigma_{diff} / \sqrt{n}}$$

The calculation of mean and standard deviation of operating cost to Investible Funds to determine the *T-Test and A-Test are shown in the table 4:*

Table 4

Years (N)	Operating cost to Investible Funds of UTI (%) Xi	Operating cost to Investible Funds of UTI Mutual Fund (%) yi	Difference ($D_i = Y_i - Xi$)	Difference Squared D_i^2
1	0.70	0.41	0.29	0.0841
2	0.75	0.45	0.30	0.0090
3	0.86	0.43	0.43	0.1849
4	0.80	0.35	0.45	0.2025
5	0.88	0.38	0.50	0.2500
N=5			$\sum \overline{D}_i$ = 1.97	$\sum D_i^2$ = 0.7305

$$\overline{D} = \frac{\sum D_i}{n} = \frac{1.97}{5} = 0.394$$

$$\sigma_{diff} = \sqrt{\frac{\sum D_i^2 - (\overline{D})^2 \cdot n}{n-1}} = \sqrt{\frac{0.7305 - (\overline{0.394})^2 \times 5}{5-1}} = 0.110$$

Hence, $\qquad$ t= $\frac{0.394 - 0}{0.110 / \sqrt{5}}$ = 8.041

The determined t test value (8.041) is more than the Student's **t**-Distribution tabulated figure (2.132) at the 5% significance level for 4 (Nos. of years-1) degree of freedom. The null hypothesis [that UTI (Transfer and Repeal) Act, 2002 is not effective in declining the value of operating cost to investible funds in UTI MF] is stands rejected as the observed value of **t** is 8.041 falls in the rejection region.

This fact can be illustrated in the graph 3:

Graph 3
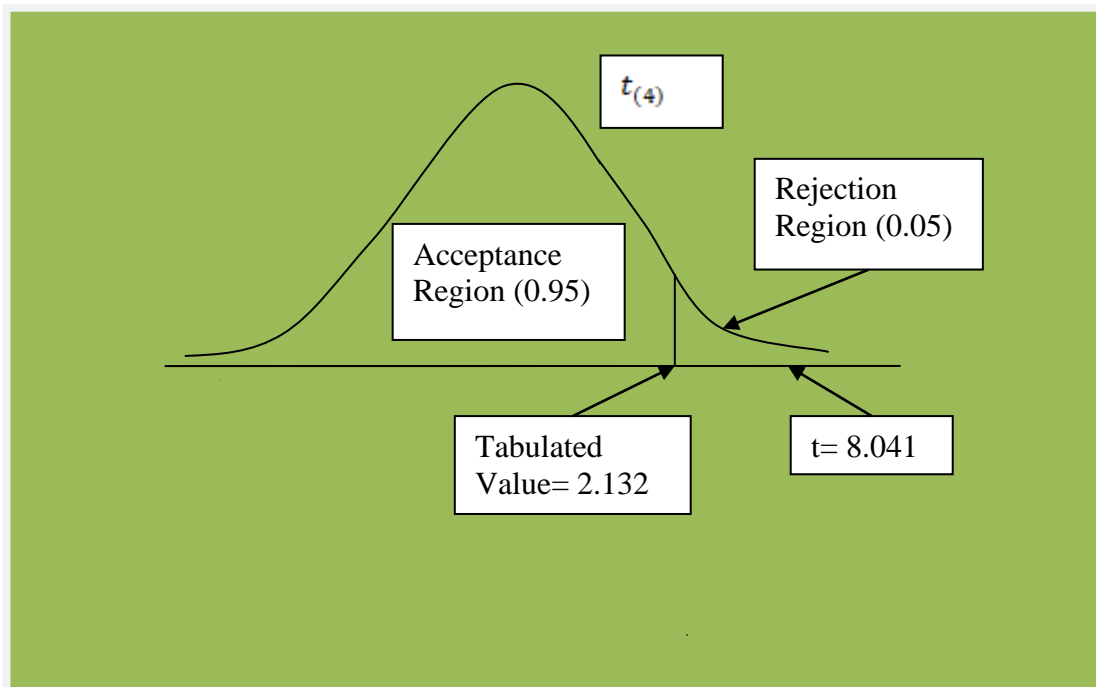
Source: Prepared by the Researcher

Conclusion

Hence, it is reasonable to believe that UTI Repeal Act, 2002 has been a success to bring improvements in the working performance of UTI MF in terms operating cost to investible funds as it is reduces in UTI MF as compared to UTI.

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MOVING FROM CASH TO CASHLESS ECONOMY

Dr. Ati Jain*

ABSTRACT

This time period exhibits an extremely high amount of change in the methods used to send and receive money. Because of the ongoing development of technology and policy changes. There are now more ways to make payments than ever before. The future of the Indian economy is a cashless one, where there won't be any actual currency movement. All payments will be complete and received in the online environment. Cashless commerce became common when plastic money was frequently used following demonetization. The purpose of the study is to determine how much people in the citizens regarding a cashless society. The study also aids in establishing the variables that lead people to transition from cash to cashless payments, as well as the benefits that consumers gain from using other modes of payment. According to the findings of the study, working professionals and business people prefer digital payment options. People are influenced to switch by a variety of things like as offers, rebates, and so on. There is still a long way to go before India can go completely cashless, as the government must build a reliable and secure infrastructure.

KEYWORDS: *Cashless Economy, Technological Development, Demonetization, Digital Payment Methods, Economic Transactions.*

Introduction

The concept of a cashless economy represents a significant transformation in the way financial transactions are conducted and signifies the increasing reliance on digital and electronic payment methods while reducing the dependency on physical currency, such as coins and paper money. In a cashless economy, individuals, businesses, and governments utilize various forms of electronic payments to conduct transactions, including credit and debit cards, mobile wallets, digital currencies, and online banking systems. This shift towards a cashless economy has been accelerated by advancements in technology, the widespread availability of the internet, and the growing acceptance of digital payment solutions by both consumers and businesses. It has not only transformed the way we handle money but has also had far-reaching implications for financial inclusion, security, convenience, and economic efficiency.

The primary drivers behind the adoption of cashless transactions include the convenience and speed of digital payments, improved security measures, reduced reliance on physical currency, and the potential to enhance transparency and combat illicit financial activities. As a result, governments and financial institutions worldwide have been promoting policies and innovations to encourage the transition to a cashless society. This introductory overview will delve deeper into the key aspects of the cashless economy, exploring its advantages and challenges, its impact on various sectors of society, and the broader implications for economic and financial systems. As people explore these facts, it will gain a better understanding of how the cashless economy is reshaping our financial landscape and the potential benefits it offers in terms of efficiency, accessibility, and security.

Historical Background of digital payments in India

The historical background of digital payments in India traces the evolution of payment methods from traditional cash-based transactions to the modern digital payment ecosystem. Here's an overview of the key milestones and developments in the history of digital payments in India:

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- **Pre-Independence Era:** Before India gained independence in 1947, the country primarily relied on cash transactions and a barter system. Traditional methods like coins, banknotes, and hundis (unofficial promissory notes) were prevalent.

- **1950s-1970s:** After independence, India's central bank, the Reserve Bank of India (RBI), played a significant role in regulating and modernizing the country's financial system. During this period, the RBI introduced the Indian Rupee (INR) symbol and launched initiatives to standardize currency notes.

- **1980s-1990s:** The 1980s saw the introduction of electronic fund transfers, primarily through the Real Time Gross Settlement (RTGS) system, which enabled electronic transfer of funds between banks on a real-time basis. In the 1990s, India began to liberalize its economy, leading to increased foreign investment and the growth of the IT sector.

- **2000s:** The turn of the millennium marked a significant shift toward digital payments in India. In 2004, the National Electronic Funds Transfer (NEFT) system was launched, allowing electronic interbank fund transfers. The introduction of mobile phones and the internet also paved the way for mobile and online banking.

- **2008:** The National Payments Corporation of India (NPCI) was established to facilitate retail payments and settlements in the country. The NPCI played a pivotal role in the development of several digital payment systems, including the Immediate Payment Service (IMPS) and the Unified Payments Interface (UPI).

- **2010s:** The 2010s witnessed a rapid increase in the adoption of digital payment methods in India. The government's "Financial Inclusion" drive aimed to bring banking services to the unbanked and under banked populations through initiatives like Jan Dhan-Yojana, which provided no-frills bank accounts to millions of Indians.

Objectives of the Study

- To identify the mode of cashless transactions
- To examine the benefits and challenges of cashless economy.
- To find out impact of cashless economy on Growth

Research Methodology

Research Design

The research is descriptive in nature. The researcher for the purpose here had made use of secondary data. Secondary sources were also used with respect to Review of Literature, Journals and articles.

Digital Payment Methods in India

India has witnessed a significant proliferation of digital payment methods over the years. These methods have transformed the way people transact, making payments more convenient, secure, and efficient. Here are some of the prominent digital payment methods in India:

- **Unified Payments Interface (UPI)**: UPI is a real-time payment system that enables instant interbank transactions through mobile devices. It allows users to link their bank accounts to a mobile app and make payments, transfer funds, pay bills, and even invest. Popular UPI-based apps include Google Pay, PhonePe, Paytm, and Bhim UPI.

- **Mobile Wallets**: Mobile wallets, also known as e-wallets, store money digitally and allow users to make payments and transfers. Users can load money into these wallets and use it for a wide range of transactions, including mobile recharges, bill payments, and online shopping. Prominent mobile wallets in India include Paytm, Mobikwik, and Freecharge.

- **Debit and Credit Cards**: Debit and credit cards have long been used for online and offline transactions in India. Cards are issued by banks and financial institutions and offer a convenient way to make payments at point-of-sale (PoS) terminals and online merchants.

- **Net Banking**: Internet banking allows users to access their bank accounts online and perform various financial transactions, including fund transfers, bill payments, and account management. Almost all major banks in India offer net banking services.

- **Adhaar-enabled Payment System (AEPS)**: AEPS is a biometric-based payment system that allows individuals to access their bank accounts and make basic financial transactions using their Aadhaar number and fingerprint authentication. It is particularly useful for rural and unbanked populations.
- **National Electronic Funds Transfer (NEFT):** NEFT is an electronic funds transfer system that facilitates interbank transactions in India. It operates on a deferred net settlement basis and is commonly used for one-time fund transfers.
- **Immediate Payment Service (IMPS)**: IMPS is an instant interbank electronic funds transfer system that allows individuals to send and receive money 24/7. It is widely used for peer-to-peer (P2P) transactions and is available through mobile banking apps and online banking platforms.
- **UPI QR Code Payments**: UPI QR codes are widely used for making contactless payments. Users can scan the QR code displayed at merchants' locations or in bills to initiate transactions directly from their bank accounts.

Impact of Cashless economy on Economic Growth

- **Increased Efficiency**: Cashless transactions are often faster and more efficient than cash transactions. Electronic payments can reduce the time and resources spent on handling physical cash, such as counting, storing, and transporting money. This efficiency can lead to cost savings for businesses and government agencies, contributing to economic growth.
- **Financial Inclusion**: Transitioning to a cashless economy can improve financial inclusion by providing access to formal financial services for previously underserved populations. This can enable individuals and small businesses to save, invest, and access credit more easily, promoting economic growth by expanding the pool of potential economic participants.
- **Reduction in Informal Economy**: Cashless transactions leave digital traces, making it more difficult for businesses and individuals to engage in unreported or informal economic activities. This can help reduce tax evasion and the underground economy, increasing government revenues and supporting economic growth through improved public finances.
- **Monetary Policy**: Central banks in cashless economies have more tools at their disposal to implement monetary policy. They can influence interest rates and money supply more effectively, which can help stabilize the economy and support growth by managing inflation and promoting investment.
- **E-commerce and Business Growth**: A cashless economy is well-suited to e-commerce and online businesses. With electronic payment options, businesses can expand their customer base globally, leading to increased sales and growth opportunities. This is particularly relevant in the digital age.
- **Consumer Spending**: Cashless payments, especially credit and debit cards, can encourage consumer spending. When people have easy access to electronic payment methods, they may be more likely to make purchases, stimulating economic activity.

Benefits of Cashless Transactions

Cashless transactions, which include electronic payments, digital wallets, credit/debit card transactions, and other forms of non-cash payments, offer a wide range of benefits to individuals, businesses, and society as a whole. Here are some of the key benefits of cashless transactions:

- **Convenience:** Cashless transactions eliminate the need to carry physical cash, making payments more convenient and reducing the risk of loss or theft.
- **Security:** Electronic payments are often more secure than cash, as they leave digital trails that can be monitored for fraudulent activity. Features like PINs, biometric authentication, and encryption help protect against unauthorized access.
- **Efficiency:** Cashless transactions are faster and more efficient than handling physical cash. This is especially beneficial in high-traffic areas and for businesses with a large volume of transactions.
- **Record Keeping**: Electronic transactions generate digital records that are easy to track and manage. This simplifies budgeting, expense tracking, and tax reporting for individuals and businesses.

- **Financial Inclusion:** Cashless options can expand financial access to underserved populations who may not have access to traditional banking services. Mobile banking and digital wallets can provide financial services to remote and unbanked areas.
- **Reduced Theft and Fraud**: Cash is susceptible to theft, counterfeiting, and fraud. Cashless transactions help reduce these risks and can offer protection against counterfeit currency.
- **Cost Savings:** Businesses can save money on cash handling, transportation, and security measures when they accept electronic payments. Consumers can avoid ATM withdrawal fees and currency exchange costs when traveling.
- **Global Commerce**: Cashless transactions facilitate international trade and e-commerce, allowing businesses and consumers to engage in transactions across borders easily.
- **Contactless Payments**: Contactless payments, such as NFC-enabled card or smartphone transactions, offer added convenience by reducing the need for physical contact and speeding up the payment process.
- **Environmental Benefits**: Reducing the reliance on physical cash can have positive environmental effects by reducing the need for paper currency production and transportation.
- **Government Benefits**: Cashless transactions can help governments combat tax evasion and money laundering by leaving digital trails that can be audited and monitored.

Security Challenges

- **Data Breaches**: Data breaches occur when unauthorized individuals or entities gain access to sensitive customer information, such as credit card numbers, account details, or personal identification. Data breaches can lead to identity theft, financial fraud, and reputational damage for businesses. Stolen data is often sold on the black market, contributing to further criminal activities. Businesses should implement robust data security measures, including encryption, secure data storage, and regular security audits. Consumers should monitor their accounts for suspicious activity and use strong, unique passwords.
- **Phishing and Social Engineering**: Phishing involves tricking individuals into revealing sensitive information, such as login credentials or payment card details, by posing as a trusted entity. Social engineering tactics exploit human psychology to manipulate victims. Phishing attacks can result in unauthorized access to financial accounts and personal data, leading to financial losses. Education and awareness are critical. Individuals should be cautious about sharing personal information online and verify the authenticity of communications and websites. Businesses should implement email authentication protocols and educate employees about phishing risks.
- **Card Skimming:** Card skimming involves the installation of small devices on ATMs or point-of-sale terminals to capture card information when customers make transactions. Stolen card data can be used to create counterfeit cards or conduct unauthorized transactions, leading to financial losses for consumers and businesses. Regularly inspect card readers for tampering, cover the keypad while entering PINs, and monitor bank statements for suspicious activity. Businesses should employ security features on their payment terminals.
- **Mobile Wallet** Vulnerabilities: Mobile wallets and apps can be vulnerable to malware and hacking, especially if users download apps from unverified sources or fail to keep their devices updated. Unauthorized access to mobile wallets can result in financial losses and the exposure of personal data. Download apps only from official app stores, keep devices and apps updated, use strong passwords or biometric authentication, and activate remote-wipe features in case of device loss or theft.

Government Initiative Regarding Digitalization

- **Digital India:** The Digital India initiative, launched in 2015, aimed to transform India into a digitally empowered society and knowledge economy. It included several programs and projects to promote digital payments, such as the Aadhaar-enabled payment system and the Unified Payments Interface (UPI).
- **Unified Payments Interface** (UPI): UPI is a real-time payment system that facilitates inter-bank transactions by instantly transferring funds between two bank accounts on a mobile platform. It has gained widespread popularity and is supported by numerous mobile banking apps.

- **BHIM (Bharat Interface for Money)**: BHIM is a government-developed UPI app that allows users to send and receive money, pay bills, and make transactions digitally.
- **Aadhaar-enabled Payment System (AePS)**: AePS is a system that enables Aadhaar cardholders to carry out financial transactions using their Aadhaar number and fingerprint authentication. This has made it easier for people in rural areas to access banking services.
- **Jan Dhan Yojana:** The Pradhan Mantri Jan Dhan Yojana (PMJDY) was launched to promote financial inclusion. It aimed to ensure that every household in India had access to a bank account, paving the way for more people to participate in the formal banking system.
- **Cashless Villages:** The government identified and encouraged certain villages to go cashless, promoting digital transactions and discouraging the use of physical currency.

Conclusion

The study conclude that there is a long way for India to become a cashless economy. People still lack trust and confidence while using digital payment methods. A lot of development in the field of infrastructure is required to make the dream of Digital India a reality. There are many people who are still not aware about the cashless economy not only in India but outside of India. Government has faced a lot of criticism in the past from the public for the various plans implemented on the public. There are a lot of challenges in fulfilling the dream of digital India but in the long run cashless economy will help in growth and will bring a lot of benefits and opportunities with it. Few of the major finding according to this study are: There are still a lot of people who do not use any kind of digital payment method. There are a lot of scope in the future for cashless society. People are mostly influenced by convenience and offers provided for switching to cashless modes of payments. There is still a lot to be done to digitalise India. People don't feel safe sharing their financial and personal information over the internet. People face various problems while using digital payment methods.

Key Suggestions

Government of India should try to educate people about the benefits of going cashless before taking any crucial steps. They should also be able to implement their plans properly and without troubling the public. They should also tell about the opportunities which the public will get if they become digital. People should try and use any digital payment method at least once. Government should develop infrastructure to cope up with any policy change or a plan implementation beforehand. People and government should work together to develop infrastructure and technology to digitalize India.

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THE IMPACT ANALYSIS OF MAJOR FINANCIAL RATIOS OF INDIAN TEXTILE FIRMS AFTER IMPLEMENTATION OF GST

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ABSTRACT

This study examines the key financial ratios of the top 25 selected textile companies during two distinct periods: the pre-GST era spanning from FYs 2011-12 to 2016-17, and the post-GST era encompassing FYs 2017-18 to 2022-23. It conducts a comparative analysis of these periods, evaluating critical financial metrics such as liquidity, profitability, efficiency, and investor ratios. The selection of companies for this sample study is based on their market capitalization as per the BSE index. Data for the study has been sourced from the annual reports of the chosen firms. The study's findings Indicate that the implementation of GST has had a favorable impact on the liquidity and profitability of the selected firms. This impact is attributed to factors such as reduced tax leakage, improved supply chain dynamics, the advantages of input tax credits, enhanced cost efficiency, and expanded market opportunities. Nevertheless, it's worth noting that these firms have also encountered challenges related to pricing strategies, tax rates, compliance, logistics, and distribution, which have, in turn, affected their overall operational efficiency.

***KEYWORDS**: Financial Ratios, Textile Firms, GST, BSE Index, Operational Efficiency.*

Introduction

The introduction of 'GST represents a momentous milestone in India's indirect tax reform landscape. GST, a unified tax system, replaced a multitude of indirect taxes including VAT, service tax, central excise duty, among others, ushering in a comprehensive tax regime jointly administered by both the Central and State Governments. This GST framework is founded on the core principle of "one nation, one tax," and it became effective on July 1, 2017. Under GST, goods and services are categorized and taxed at different rates, with the most common tax rates being 5, 12, 18, and 28 percent.

The Indian textile industry, one of the country's oldest and largest sectors, holds immense importance in terms of employment generation and its substantial contribution to the national economy. The introduction of GST in India has brought about a notable impact on the textile industry, encompassing both positive and negative aspects.

Review of Literature

(MG & Babu, 2021) revealed that the monthly revenue and turnover of small and medium textile industry units didn't experience significant increases after GST implementation.

(Jain, 2020) concluded that GST had a negative impact on the textile sector in Surat City, resulting in increased product costs.

(Borate & Ghorpade, 2019) identified positive factors affecting the post-GST textile industry, including improved compliance, a revenue-neutral rate, and transparent taxation. Negative factors included issues related to goods transfer as stock, advance booking, and post-supply discounts.

(Maidan & Garg, 2018) found that the current impact of GST on the textile industry was negative, resembling the situation in China.

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The literature review underscores the need for comparative research on firms in the textile industry during the pre and post-GST periods. This study aims to bridge this research gap by conducting a comparative analysis of major financial ratios in these two periods within the textile industry.

(Raj & Kumar, 2023) observed a positive impact of GST on textile manufacturing job workers in Erode district, Tamil Nadu. The implementation of GST brought advantages like breaking the input chain and reducing manufacturing costs, but it also introduced challenges such as higher tax rates and the removal of benefits in the cotton value chain.

Objectives:

The objective of this study is to assess the impact of GST implementation on the major financial ratios of selected Indian textile firms.

hypotheses

H_{01}:   There is no statistically significant difference between the average current and quick ratios in the pre and post-GST periods of the selected firms.

H_{02}:   There is no statistically significant difference between the average total debt to equity ratio in the pre and post-GST periods of the selected firms.

H_{03}:   There is no statistically significant difference between the average net profit ratio and return on capital employed in the pre and post-GST periods of the selected firms.

H_{04}:   There is no statistically significant difference between the average assets and inventory turnover ratio during the pre and post-GST periods of the selected firms.

H_{05}:   There is no statistically significant difference between the average earnings per share (EPS) and dividend per share (DPS) during the pre and post-GST period of the selected firms.

Study Period, Data Collection, Research Variable & Sample Selection

In the realm of commerce and financial analysis, this study spans a 12-year period, covering from FY 2011-12 to 2022-23. This timeframe is segmented into two distinct phases: the pre-GST period, encompassing FYs 2011-12 to 2016-17, and the post-GST period, comprising FYs 2017-18 to 2022-23. Throughout both these periods, a comprehensive analysis of major financial ratios, including liquidity, profitability, efficiency, and investor ratios, has been conducted.

Data concerning these financial ratios have been meticulously gathered from the annual reports of the selected firms. The sample consists of the top 25 firms, thoughtfully chosen from the BSE index based on market capitalization.

Statistical Tools & Techniques

In the context of commerce and financial analysis, this study has employed descriptive statistics and a paired sample t-test for analysis.

Analysis & Conclusions

For the purpose of testing the aforementioned hypotheses, data on indirect tax (GST) has been collected for the period spanning from 2011-12 to 2022-23, and the results are presented in Tables 1 and 2.

Table 1: Average Financial Ratios of Sample Firms in the Pre-Gst Period

Financial Ratios	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Average Pre-GST
Current Ratio (Times)	1.52	1.34	1.34	1.41	1.71	1.54	1.48
Quick Ratio (Times)	0.91	0.75	0.74	0.76	0.94	0.91	0.83
Total Debt/Equity (Times)	1.37	1.7	1.29	1.13	1.11	1.06	1.28
Net Profit Margin (%)	4.23	4.44	3.89	3.96	5.81	5.06	4.57
Return on CE (%)	4.98	8.58	10.27	10.61	12.25	16.18	10.48
Asset Turnover (%)	107.38	115.79	116.67	113.8	108.15	104.88	111.11
Inventory Turnover (Times)	5.42	5.75	6.19	5.84	5.74	5.59	5.76
Basic EPS (Rs.)	8.77	19.24	14.32	24.87	26.69	25.27	19.86
Dividend/Share (Rs.)	4.41	4.89	5.43	6.68	9.5	5.96	6.14

These tables present the average financial ratios of sample firms during the pre-GST period, providing a comprehensive overview of their performance over the years.

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CREATIVE ACCOUNTING:
IMPACT ON CURRENT BUSINESS ENVIRONMENT IN INDIA

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ABSTRACT

Creative accounting, an artful manipulation of financial records to present a misleading depiction of a company's fiscal health, has become a prevalent practice within the contemporary business sphere of India. This article meticulously delves into the far-reaching implications and ramifications of creative accounting within the Indian business milieu. The driving forces behind this practice often revolve around the necessity to meet or surpass performance expectations, adhere to stringent debt covenants, minimize tax burdens, and portray an appealing façade to stakeholders and the financial market. In the pursuit of these objectives, a plethora of stratagems are employed, embracing tactics such as income smoothing, wherein revenue is spread across various reporting periods to create an illusion of consistent earnings. Additionally, off-balance sheet financing is utilized to keep debt concealed from financial statements, enhancing the perceived financial robustness of the organization. Expense capitalization, another technique, involves categorizing certain costs as assets, artificially augmenting the organization's financial standing. The repercussions of creative accounting on financial statements are momentous, causing distortions in pivotal financial ratios. This distortion, in turn, deceives potential and current investors, potentially leading to uninformed investment decisions. While regulatory bodies such as the Securities and Exchange Board of India (SEBI) and the Institute of Chartered Accountants of India (ICAI) have enacted regulatory frameworks to curb these deceptive practices, enforcement remains a formidable challenge due to the evolving nature of creative accounting techniques. The fallout from creative accounting encompasses a loss of trust and confidence among investors, raising legal issues and causing significant market volatility. Addressing these challenges necessitates proactive strategies, including strengthened regulatory oversight, fostering transparency and enhanced disclosure practices, and educating investors about the perils of creative accounting. Collaboration among regulatory bodies, businesses, and investors emerges as a paramount imperative, fostering a culture of ethical financial conduct and upholding transparency and sustainability in the Indian business environment. This research paper shows the collaborative effort which play a pivotal role in fortifying the foundations of trust and integrity upon which the financial landscape of India should be built.

***KEYWORDS**: Creative Accounting, Financial Statements, Deceptive practices, Regulatory Measures.*

Introduction

Creative accounting, often dubbed as aggressive accounting, is an artful financial practice where companies manipulate financial records, transactions, and accounting standards to depict a financial position that deviates from reality. Its objective is to present a more positive and appealing view of the company's financial performance, often diverging from the factual financial standing. Although creative accounting is not illegal per se, it straddles a fine line of ethics and legality, often skirting the boundaries of both. In the complex and competitive contemporary business environment of India, creative accounting has come under the spotlight due to its potential to shape investor perceptions, influence stakeholder decisions, and impact the broader market sentiment. Companies are increasingly

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pressured to showcase robust financial performance to attract investments, maintain stakeholder confidence, and project an image of stability and growth. Creative accounting offers a tool to meet these expectations, albeit artificially, by presenting financial statements that appear stronger and more stable than the reality.

The motivations behind resorting to creative accounting practices are manifold. It includes meeting performance expectations set by analysts and shareholders, adhering to strict debt covenants imposed by creditors, minimizing tax liabilities to enhance profitability, and creating an attractive facade to lure stakeholders and investors. Various techniques are employed to achieve these ends, such as income smoothing to spread income over multiple years for a consistent appearance, off-balance sheet financing to keep debts away from financial statements, and expense capitalization to convert costs into assets. However, the consequences of creative accounting are profound, especially on financial statements. By altering financial figures, it distorts crucial financial ratios, impacting the overall interpretation of a company's financial health. Investors heavily rely on these ratios to make informed investment decisions, and when manipulated, they can lead to misguided choices. Despite regulatory efforts by institutions like the Securities and Exchange Board of India (SEBI) and the Institute of Chartered Accountants of India (ICAI) to curb creative accounting, enforcing compliance remains a challenge due to its ever-evolving nature. The implications of creative accounting go beyond the financial realm. It profoundly affects investor confidence, potentially leading to legal consequences and market volatility. Thus, it is imperative to proactively address this issue through enhanced regulatory oversight, transparent reporting practices, and investor education. Collaboration among regulatory bodies, businesses, and investors is vital to instill ethical financial practices and ensure transparency and sustainability in the Indian business environment. Achieving this balance will pave the way for a trustworthy financial landscape that fosters long-term growth and stability.

Review of Literature

Several scholarly works have been conducted to shed light on the phenomenon of creative accounting and its implications on the current business environment of India. "Creative Accounting: A Comprehensive Review" by Balachandran and Mohanraj (2015) offers a detailed examination of the origins, evolution, and techniques of creative accounting, emphasizing the imperative of regulatory mechanisms to counter its adverse effects. In a similar vein, "Creative Accounting and Corporate Governance" by Beams et al. (2002) explores the intricate relationship between creative accounting practices and corporate governance mechanisms, highlighting the role of robust corporate governance in mitigating the impact of creative accounting. "Impact of Creative Accounting on Investors' Decision Making" by Roy and Islam (2013) delves into the influence of creative accounting on investors' decision-making processes, advocating for enhanced investor education to mitigate its impact on the investment landscape. Additionally, "Creative Accounting: Ethical Considerations" by Gowthorpe and Amat (2005) examines the ethical dimensions of creative accounting, underscoring the importance of ethical conduct in financial reporting. These works collectively emphasize the need for regulatory measures, ethical considerations, and investor education to address the adverse effects of creative accounting and uphold transparency and integrity in financial reporting within the Indian business environment.

Research Methodology

This research employs a secondary data analysis methodology, which involves the collection and analysis of existing data from various reputable sources. This offers an efficient and cost-effective approach to investigate the impact of creative accounting on the current business environment in India. This approach involves the scrutiny of previously published articles, academic papers, reports, government publications, financial statements, and other relevant data sources. The primary objective of this research is to comprehensively understand and analyse the implications of creative accounting within the contemporary business landscape of India. By utilizing secondary data, the study aims to explore the motives behind creative accounting, the methods employed, and the consequences it holds for investors, stakeholders, and the overall market perception.

Research Findings

Creative accounting is not a new phenomenon and has been prevalent for decades across the world. In India, creative accounting can be traced back to the era of economic liberalization, which began in the early 1990s. The liberalization of the Indian economy led to increased competition, making companies resort to various tactics to maintain a competitive edge, including creative accounting practices. Following are some findings:

Motivations behind Creative Accounting

The motivations behind creative accounting are numerous and can vary based on the organization's circumstances and objectives. Some common reasons for engaging in creative accounting include:

- **Window Dressing Financial Statements**

Creative accounting allows companies to portray a more favorable financial position than actuality. By presenting a rosy financial picture, they aim to attract investors, instill confidence in stakeholders, and adhere to regulatory requirements, especially during crucial reporting periods like annual disclosures and investment drives.

- **Meeting Performance Expectations**

Businesses face immense pressure to meet performance expectations set by analysts, market analysts, and internal benchmarks. Creative accounting provides a mechanism to align reported results with these expectations, creating an illusion of consistent growth and stability. This, in turn, may help in retaining investor confidence and maintaining stock market appeal.

- **Debt Covenant Compliance**

Companies often have debt covenants in their loan agreements, specifying certain financial ratios they must maintain. Creative accounting helps in ensuring compliance with these covenants, preventing potential defaults that could have adverse implications for the organization. By manipulating financial ratios, they can meet these conditions even when their financial health might not naturally support it.

- **Tax Minimization**

Minimizing tax liabilities is a key financial objective for any business. Creative accounting enables the manipulation of financial figures to reduce tax obligations legally. This approach aids in enhancing profitability and cash flows, allowing companies to allocate resources more strategically while adhering to tax laws.

Creative accounting serves as a strategic tool employed by businesses to navigate the complexities of the financial landscape, aligning reported financials with organizational goals, market expectations, and legal requirements. While it can provide short-term benefits, ethical considerations and long-term consequences emphasize the need for transparency and accountability in financial reporting practices.

Methods of Creative Accounting

Creative accounting employs various methods to manipulate financial statements and transactions, portraying a modified financial reality that aligns with specific organizational objectives. These methods offer a means to enhance the appearance of stability, growth, or profitability. Here are the key methods of creative accounting:

- **Income Smoothing**

This method entails spreading income across multiple reporting periods to create an illusion of consistent earnings. By doing so, the company presents a steady income stream, making it more appealing and stable to potential investors and stakeholders. Smoothing income can help in mitigating the impact of irregular financial performance, thereby positively influencing market perceptions.

- **Off-Balance Sheet Financing**

Off-balance sheet financing involves engaging in transactions that don't get recorded on the balance sheet, keeping debt and certain financial obligations hidden. This technique enhances key financial ratios, making the company appear less leveraged and more financially stable than it truly is. While this method can provide short-term benefits, it can also mask financial risks and potential liabilities.

- **Expense Capitalization**

Instead of expensing certain costs immediately, companies may capitalize them as assets, spreading the cost over the asset's useful life. This approach artificially boosts the reported financial position by decreasing current expenses and increasing asset values. Consequently, reported profitability is higher, and the company seems more financially robust.

- **Reserving for Future Expenses**

Creating excessive provisions or reserves for anticipated future expenses can artificially reduce current profits. By overstating future expenses or liabilities, a company can make current periods seem less profitable, subsequently making future periods appear more profitable than they may actually be. This technique helps in managing earnings and presenting a positive outlook to investors and stakeholders.

These methods of creative accounting exemplify the intricate ways in which financial information can be manipulated to create a desired narrative. While creative accounting can provide a short-term advantage, it's crucial for stakeholders to interpret financial statements with caution, considering the potential impact of these methods on the true financial health of an organization. Regulatory oversight and transparency in financial reporting are imperative to maintain trust and ensure the integrity of financial markets.

Impact of Creative Accounting on Financial Statement

Creative accounting exerts a substantial impact on financial statements, potentially altering the perception of a company's financial health and stability. Here, we delve into the significant ways creative accounting affects financial statements in the Indian context:

- **Distorted Financial Ratios**

Creative accounting can significantly distort crucial financial ratios, including the debt-to-equity ratio, earnings per share (EPS), and return on equity (ROE). For instance, employing off-balance sheet financing allows a company to conceal debt and present a lower financial leverage, creating a more appealing image to investors. This distortion in financial ratios can misguide stakeholders in evaluating the company's true financial health.

- **Misleading Earnings**

A core objective of creative accounting is to manipulate earnings, crafting an illusion of stable or growing profits even during periods of actual volatility or decline in performance. Through income smoothing and other methods, companies can present a consistent earnings trend, potentially leading investors to make uninformed investment decisions based on misrepresented profitability.

- **Fluctuating Cash Flows**

Creative accounting practices such as expense capitalization and other techniques that defer expense recognition can artificially enhance reported cash flows. This augmentation gives the appearance of stronger financial liquidity and robustness than what is genuinely the case. The distorted cash flow figures can influence investor expectations and market sentiment, leading to decisions based on misleading financial data.

- **Obscured Liabilities**

Companies engaged in creative accounting may understate their liabilities, giving an impression of a lower risk profile than actually exists. Techniques like understating provisions or manipulating reserve accounts can mask potential financial risks, ultimately obscuring vital information that stakeholders and investors should be aware of for accurate risk assessment and decision-making.

Understanding the far-reaching impact of creative accounting on financial statements is crucial for investors, stakeholders, and regulatory bodies. Uncovering and addressing these distortions are vital steps toward ensuring financial transparency, integrity, and informed decision-making within the Indian business environment. Regulatory measures and proactive awareness campaigns are essential to mitigate the adverse effects of creative accounting and maintain the trust and efficiency of financial markets.

Regulatory Measures and Challenges

Regulatory measures and challenges concerning creative accounting are critical aspects of the financial landscape in India. Creative accounting involves manipulating financial statements to portray a misleading financial position, which can deceive stakeholders and investors. To address this concern and uphold the integrity of financial reporting, regulatory bodies in India have implemented several measures.

Regulatory Measures

- **Guidelines and Standards**

Regulatory bodies such as SEBI and ICAI have established stringent accounting standards and guidelines. For instance, the Indian Accounting Standards (Ind AS) are aligned with international standards like IFRS, ensuring a comprehensive framework for financial reporting.

- **Corporate Governance Regulations**

SEBI has put forth corporate governance regulations that mandate transparency, disclosure of financial information, and adherence to ethical accounting practices. Companies are required to adhere to these norms to ensure fair reporting.

- **Periodic Reporting and Disclosures**

Listed companies are mandated to provide regular financial updates, quarterly and annual reports, to ensure transparency and timely dissemination of financial information to investors and stakeholders.

- **Auditor Oversight and Independence**

Regulatory bodies oversee and regulate the functioning of auditors to ensure independence and unbiased reporting. Guidelines are in place to prevent conflicts of interest that may compromise the accuracy of financial statements.

Challenges

- **Evolving Nature of Creative Accounting**

Creative accounting is a dynamic practice that continuously evolves to circumvent regulatory measures. Companies often adapt and develop new methods, making it challenging for regulators to keep pace with the changing landscape.

- **Detection and Enforcement**

Detecting creative accounting practices is challenging, given the sophistication and subtlety with which manipulations are carried out. Moreover, enforcing compliance with accounting standards requires vigilance and resources.

- **Resource Constraints**

Regulators often face limitations in terms of resources, expertise, and technology. Adequate funding and training are necessary to enhance the effectiveness of regulatory bodies in combating creative accounting effectively.

- **Coordination and Collaboration**

The diverse regulatory landscape in India involves multiple bodies overseeing different aspects of financial reporting. Ensuring effective coordination and collaboration among these bodies is essential to create a cohesive approach in addressing creative accounting.

The regulatory measures in India aim to mitigate the adverse effects of creative accounting by setting standards, enforcing compliance, and enhancing transparency. However, the dynamic nature of creative accounting poses formidable challenges, necessitating continuous efforts to stay ahead of evolving tactics. Collaboration, resource allocation, and a comprehensive regulatory approach are key to effectively combat creative accounting and maintain the integrity of financial reporting in India.

Consequences of Creative Accounting

The consequences of creative accounting are far-reaching and have significant implications for companies, investors, and the broader financial market. Firstly, creative accounting can result in a substantial loss of investor confidence. When financial statements are manipulated to present a false or exaggerated financial position, it misguides investors who rely on accurate financial information to make informed decisions. The discovery of such manipulations can lead to a loss of trust in the company and its management, influencing investment choices and potentially causing investors to divest from the company. Secondly, engaging in creative accounting practices carries legal consequences. Regulatory bodies like SEBI and ICAI have established guidelines and standards to ensure transparency and accuracy in financial reporting. Violating these standards and engaging in deceptive accounting practices can lead to legal actions against the individuals and entities involved. Penalties, fines, and even

imprisonment can be imposed, depending on the severity and impact of the deceptive practices. Lastly, creative accounting can induce market volatility. When creative accounting practices are exposed, investors may react swiftly and decisively, resulting in sudden and significant fluctuations in the company's stock price. Such market volatility can adversely affect shareholders and disrupt the overall stability of the financial market. It creates an environment of uncertainty and may deter potential investors, impacting the company's future growth prospects and stability in the market.

In summary, the consequences of creative accounting are detrimental to the financial ecosystem, impacting investors, market stability, and the reputation of the involved companies. Ethical financial reporting, adherence to accounting standards, and regulatory compliance are crucial in preventing these adverse consequences and fostering a trustworthy and reliable financial environment.

Conclusion

In conclusion, the pervasive practice of creative accounting constitutes a significant threat to the credibility and transparency of financial reporting within the Indian business landscape. Although companies may perceive short-term gains from manipulating financial statements, the long-term repercussions can be profoundly detrimental to stakeholders and the broader market. The misleading financial portrayals resulting from creative accounting erode trust and confidence, crucial pillars of a robust financial ecosystem. To effectively mitigate the adverse effects of creative accounting, it is imperative for regulatory bodies, businesses, and investors to collaborate closely. Regulatory bodies should enhance oversight, fortify guidelines, and ensure rigorous enforcement. Simultaneously, businesses should prioritize adherence to ethical financial reporting practices, embracing transparency and accuracy. Investors, on the other hand, need to be vigilant and well-informed, critically analyzing financial statements to discern potential manipulations. By fostering ethical financial practices and promoting a culture of integrity and transparency, stakeholders can collectively uphold the trust and sustainability essential for a thriving Indian business environment.

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EMERGING NEW TRENDS AND DEVELOPMENTS IN BANKING SECTOR

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ABSTRACT

The financial sector is essential to business, trade, and industry. In the context of today, the banking industry serves as the foundation of current commerce. Any nation's financial system is one of the key factors influencing its growth and development. A financial institution known as a bank handles deposits, advances, and other related services. It receives money in the form of deposits from people who wish to save money and loans money to people who need it. Nationalized banks dominate the Indian banking system. Perhaps more than any other sector, the performance of the Indian banking system is intimately correlated with the overall health of the economy. This study's primary goals are to describe the Indian banking sector's structure and recent trends in banking sector. The stability and expansion of an economy depend heavily on the banking industry. This study examines the numerous banking sector changes implemented, their effects on monetary stability, economic expansion, and implementation difficulties. The Indian banking industry has undergone continual change, transitioning from an exclusive industry to one that promotes social change and financial inclusion. The financial sector, however, has faced numerous problems recently. For instance, the functioning of the Indian banking sector has been hampered by a reduction in asset quality, financial soundness, and efficiency.

KEYWORDS*: Banking Sector, Reforms, Developments, Service Sector, Trends.*

Introduction

With the intention of enhancing the overall performance of the Indian banking system, banking sector reforms were first implemented. Different banking sector reforms have been introduced in India as a result of economic liberalization and the growing trend toward globalization. These reforms aim to increase operational effectiveness, support the health and financial stability of banks, and ensure that Indian banks can perform in accordance with internationally recognized performance standards. Reforms are essential in order to increase the international competitiveness of Indian banks and motivate them to contribute effectively to quickening the growth process. The stability, effectiveness, and efficiency of banks were to be improved through the banking sector reforms in India. The operational rigidities in the credit distribution system are eliminated, and it guarantees effective allocation and the accomplishment of social goals.

Reforms of the Indian Banking Sector

- **First-Generation Banking**: Up to 1947, the Swadeshi Movement saw the emergence of numerous tiny, regional banks. Internal scams, related lending, and the amalgamation of trading and banking books were the main causes of failure for the majority of them.

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- **Second Generation Banking (1947–1967)**: Indian banks encouraged resource concentration in a small number of business families or groups (mobilized through retail deposits) and disregarded loan flow to farmers as a result.

- **Third Generation Baking (1967–1991)**: Through the nationalization of 20 significant private banks in two phases (1969 and 1980) and the introduction of priority sector financing (1972), the government was successful in severing the link between industry and banks. As a result of these measures, "class banking" gave way to "mass banking.".

- **Fourth Generation Banking (1991-2014):** This period saw landmark reforms such as issue of fresh licences to private and overseas banks to infuse competition and enhanced productivity as well as efficiency. This was done by leveraging technology; introduction of prudential norms; providing operational flexibility coupled with functional autonomy; focus on implementation of best corporate governance practices; and strengthening of capital base as per the Basel norms.

- **Current Model:** Since 2014, the banking sector has witnessed the adoption of the JAM (Jan-Dhan, Aadhaar, and Mobile) trinity, and issuance of licences to Payments Banks and Small Finance Banks (SFBs) to achieve last-mile connectivity in the financial inclusion drive.

Role of Banking Sector in an Economy

Through the process of financial intermediation, the banking sector in any country plays a significant role in supporting economic growth and development. According to development economists, the existence and evolution of financial institutions and markets is a significant factor in the process of economic progress**.**

Offering a more effective allocation of money into investment than individual individuals can achieve on their own. This inflow of savings into investment means that more products and services may be produced, enhancing productivity and the nation's standard of life.

Reducing the risk that enterprises incur in their manufacturing processes by supplying liquidity and capital; I By offering insurance and project management, investors may boost their portfolio diversity. Aside from offering insurance services as part of the practice of universal banking, banks have developed a variety of products tied to specialized insurance policies that are meant to give protection against life, health, property, and income hazards. In addition to this, banks have been used by corporations and individual customers to "seif-insure" against risk; that is, reserves of cash and other similar assets are built up as protection against potential losses.

Providing a solid framework for successful monetary policy implementation, the economy is managed more effectively. The banking sector has been one of the ways through which the government has carried out its policy of economic stabilization and inflation control. The government may affect borrowing and spending within the economy by manipulating important variables such as interest rates and the amount of credit available.

Facilitating a dependable payment mechanism that gives assistance. For the sake of the economy. In this case, some similar as financial assets as well as current accounts, savings / deposit domiciliary accounts, and so on act as a channel of communication in return for money Immediately came to mind. Credit cards, checks Electronic transfers are accepted. The primary method of today is the deadline for payment.

Objectives of the Study

- To Examine the development of Banking sector in current scenario

- To Identify New Trends in Banking Sector

Developments of Banking Sector in India

India, banks, and other financial institutions have joined the field of information technology and computer networking. A satellite-based Wide Area Network (WAN) would offer the banking industry with a dependable communication architecture. The Indian banking Network will communicate using VSAT technology, allowing for speedier connection inside the banking industry. The planned Integrated Payment and Settlement System (IPSS) would rely on the INFINET as its communication backbone. In 1999-2000, the Reserve Bank established a National Payments Council (Lnairman: Shri S. P. Talwar) to focus on the policy parameters for creating an IPSS with a real-time gross settlement (RTGS) system at

its heart. Banking sector growth is a complicated and varied process that differs from country to country. In general, the banking sector's evolution incorporates various major stages and elements. Here's an explanation of the standard stages and components involved in the formation of a banking sector:

Emergence of Banking Institutions

- In the early stages, banking may begin with simple money-lending activities by individuals or informal groups.
- As economies evolve, more formal banking institutions such as commercial banks, cooperative banks, and credit unions may emerge to serve the financial needs of individuals and businesses

Regulatory Framework

- The establishment of a regulatory framework is critical to ensure the stability and integrity of the banking sector.
- Government regulations and oversight agencies are established to supervise and regulate banks, enforce prudential norms, and protect depositors' interests.

Financial Inclusion

- Expanding access to financial services is a key aspect of banking sector development. This includes efforts to bring unbanked and underbanked populations into the formal financial system.
- Initiatives such as branch expansion, mobile banking, and microfinance play a role in increasing financial inclusion.

Technology Adoption

- Technological advancements, including the use of computers and the internet, have transformed the banking sector. Online banking, mobile banking apps, and electronic payment systems have become integral to modern banking.
- Fintech innovations and the integration of emerging technologies like blockchain and artificial intelligence continue to shape the sector.

Risk Management

- Developing robust risk management practices is essential to the stability of the banking sector. This includes credit risk assessment, market risk management, and liquidity risk management.
- Regulatory authorities often impose capital adequacy requirements to ensure that banks have sufficient capital to cover potential losses.

Financial Stability

Maintaining financial stability is a critical goal. Central banks often play a key role in this by implementing monetary policy, conducting stress tests, and overseeing systemic risk.

New Trends in Banking Sector

The banking sector is continuously evolving, and several new trends have emerged in recent years to meet changing customer expectations, improve efficiency, and adapt to technological advancements. Here are some of the notable new trends in the banking sector:

- **Digital-Only Banks (Neobanks):** Digital-only banks, often referred to as neobanks, operate entirely online without physical branches. They offer convenience, competitive fees, and user-friendly mobile apps. Examples include Chime, N26, and Revolut.
- **Open Banking:** Open banking initiatives allow customers to share their financial data securely with third-party financial service providers. This promotes competition and enables the creation of innovative financial products and services.
- **Decentralized Finance (DeFi):** DeFi leverages blockchain technology to create decentralized financial systems that enable activities like lending, borrowing, and trading without traditional intermediaries. It provides more accessibility and financial inclusivity.
- **Central Bank Digital Currencies (CBDCs):** Several central banks are exploring or piloting their own digital currencies. CBDCs aim to provide a secure and efficient means of digital transactions while maintaining central bank control over the currency.

- **Sustainability and ESG Integration:** Banks are increasingly focusing on environmental, social, and governance (ESG) factors in their operations and investment decisions. Sustainable banking practices and ESG-aligned products are gaining prominence.

Major Issues being faced by Indian Banking Sector

Commercial banks now operate in a very competitive and dynamic environment due to banking sector reforms, but these changes have also brought about certain obvious problems that, in the age of IT and the WTO, need to be handled with extreme caution. The main problems are as follows:

- A challenge and a source of inspiration for many bank groups is the rising productivity gap among different bank groups.
- Widening profitability gaps across the studied bank groupings
- Significant NPA rate
- A problem of client retention for public sector banks was caused by the rapid migration of potential customers from public sector banks to new private sector banks and overseas banks.
- New private sector and foreign bank penetration in semi-urban and rural areas has become a survival element for public sector banks.
- Poor service quality by many public sector banks produced a survival challenge in such a competitive climate
- Lack of autonomy in HRM policies, particularly for public sector banks.

Recommendations

- **Identify the Challenge**: Begin by clearly articulating the challenge or problem that the policy aims to address. Define the issue, its scope, and its significance.
- **Research and Analysis:** Conduct thorough research and analysis to understand the root causes, contributing factors, and potential solutions related to the challenge.
- **Stakeholder Involvement:** Involve relevant stakeholders, including experts, affected communities, and policymakers, in the policymaking process. Seek their input and feedback to ensure well-informed recommendations.
- **Clear and Specific Recommendations**: Ensure that your policy recommendations are specific, actionable, and clear. Use concrete language and avoid vague or ambiguous statements.
- **Prioritize Recommendations:** If there are multiple recommendations, prioritize them based on their potential impact and feasibility. Highlight key recommendations that should be implemented first.

Conclusion

The experience of industrialized economies has proven that the creation of a sound financial system necessitates the combined efforts of the authorities, the financial authorities, the industry participants as well as the general public. Stability in the macroeconomic environment is necessary for the the evolution of the financial system and perform as intended ro1es. Moreover, the financial authorities must enhance their ability for supervision and follow practices that would increase safety, reliability and effectiveness in financial services industry. It was because of the above and beyond the present Reform of the financial system A new program was introduced. It is heartening to see notwithstanding the fact that critiques and concerns welcomed the introduction of there is now a program. Wonderful help from both regionally and internationally. Notwithstanding the pains and strains the policy has imposed on banks, it is hoped that the mega or stronger institutions that are expected to emerge at the end of the program would ensure the installation of sound corporate governance and effective risk management systems in the banks. These would ensure that the institutions are safe, stronger and globally competitive to play developmental roles in the economy and reinforce the confidence of all stakeholders in our banking system. As we continue to grapple "r/ith the challenges of the banking sector reforms to ensure that the part is smoothened for ils effective implementation, there is the need for all stakeholders to partner with the CBN. From the experiences of other l/June 2005 countries that have pursued similar programs, the realization of the goals of the reform program would significantly contribute to the economic development of the nation and the quantum leap of the banking system to the globalised market.

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WOMEN AND SOCIO-ECONOMIC CONDITIONS ON THE MAINTENANCE OF MENSTRUAL HYGIENE: AN ANALYSIS

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ABSTRACT

Menstruation is a crucial factor in every human being's birth, although it is still taboo and is avoided in many regions of the country when spoken of or discussed in front of men. As a result, many girls and women experience several limitations and injustices during the menstrual cycle. The normal life process, which required respect, is being ignored and forced to experience needless anxiety. However, the limits have been somewhat relaxed as a result of increased education and awareness in contemporary society, and menstrual hygiene management has also increased. Many adolescent girls find it difficult to comprehend the changes taking place in their body since they are frequently unaware of the issues related to menstruation. Many adolescents in rural areas learned about menstruation shortly after it began. In this regard, the researcher planned to undertake research on how the socioeconomic environment affected women's ability to maintain good menstrual hygiene in the study area.

KEYWORDS: *Women, Menstrual Hygiene, Awareness, Social Restrictions, Economic Cost.*

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Introduction

A woman's menstruation, often known as her monthly period, is a natural process in which the uterine lining sheds blood and other materials once a month. Except during pregnancy, menstruation occurs from the start of puberty until the menopause. MHM is defined as "women and adolescent girls using a clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary for the duration of a menstrual period, using soap and water for body washing as necessary, and having access to safe and convenient facilities to dispose of used menstrual management materials."[1].

The attainment of a few of the proposed Sustainable Development Goals (SDGs), such as Goal 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all), Goal 5 (Achieve gender equality and empower all women and girls), Goal 6 (Ensure availability and sustainable management of water and sanitation for all), Goal 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment for all), and Goal 10 (Achieve gender parity and empower all women and girls), is directly related to improvements in The National Family Health Survey-5, which was carried out in 2019–21 by the Ministry of Family and Health and Family Welfare, the Government of India, and the International Institute for Population Sciences (IIPS), Mumbai, sheds light on how women manage their periods across the nation and in different states. In India, almost 78 percent of women between the ages of 15 and 19 and 77.2 percent of women between the ages of 20

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[1]   Menstrual Hygiene Management National Guidelines (2015), Ministry of Drinking water and Sanitation, Government of India, New Delhi

and 24 use a hygienic method of menstruation protection. In Karnataka, 82.5% of women between the ages of 20 and 24 and 85.9 per cent of women between the ages of 15 and 19 employ hygienic methods of menstruation protection. In comparison to the national average, more women than men use hygienic measures of menstruation protection. It has been discovered that India uses more fabric, or unsanitary methods of menstrual protection, than the state of Karnataka.

Statement of the Problem

The current study combines analytical and descriptive elements. Menstrual hygiene has played an important role in recent years. Women facing problems relating to the maintenance of menstrual hygiene in the study area has investigated.

Review of Literature

Accessible reviews of the literature and documentary sources undoubtedly contributed to having evident knowledge about earlier student study projects in the area. The following is a summary and presentation of issues related to the impact of menstruation on females, its effects on social and economic life, family assistance, awareness of the issue, and menstrual hygiene practices.

Muthusamy Sivakami et al. (2019) conducted surveys among menstruation school girls in classes 8-10 of 43 Government schools chosen through stratified random sampling in three Indian states in 2015. The study discovered that in model schools, girls were more informed about menstruation before menarche than in ordinary schools. Finally, it was found that offering menstrual hygiene information, accessible sanitary products, pain treatment, and proper sanitary facilities in schools will improve adolescent girls' learning experiences in India.[1]. Bhawna Kathuria and Sherin Raj T P (2018) looked at how common it was for young women in India's EAG states to use hygienic menstruation protection methods. According to the study, 44 per cent of young women used hygiene practices when having their periods. Additionally, data showed that women in the wealthiest category of the wealth index used hygienic procedures roughly eight times more frequently than women in the lowest category. Due to financial limitations, the majority of the young women were unable to afford napkins to use when menstruating[2].

Mansi Pal and colleagues (2022) used a hybrid manner of qualitative and quantitative methodologies to investigate adolescent girls' experiences and determine the variables affecting menstrual hygiene practices. They discovered that 74 per cent of girls had typical menstrual hygiene habits. Several indicators were identified, including caste, issues girls encounter during menstruation, how often changing pads are used, and disposal techniques.[3] In the Gadag district of Karnataka, Patil Shruti Bhavi (2022) conducted a community-based cross-sectional study on 708 enrolled teenage girls between the ages of 11 and 18. According to the survey, 68.31 per cent of girls in urban schools and 76.22 per cent of girls in rural schools, respectively, used sanitary pads. Among schoolgirls, 40.93 per cent of urban girls and 34.52 per cent of rural girls continued to adhere to social taboos such as food restrictions and avoiding religious events and places of worship.[4]

The menstrual hygiene practises, social taboos, and attitudes of women aged 15 to 24 living in a rural area of West Bengal, India, were studied by Ferdousi Fahmida Amin et al. (2022). There was a statistically significant correlation between socioeconomic status and the frequency of sanitary pad use (p0.0001) and school absences (p=0.011634). Higher education was positively linked (p 0.00001). The study made clear that widespread social stigma, limitations, and a negative attitude towards menstruation still persist in this rural community, which has an impact on how women should safely dispose of old absorbents and their general health.[5]. According to Sonali K. Borkar et al. (2022), 26.21 per cent of girls used clothing whereas 73.79 per cent of girls used sanitary pads. The most significant limitations placed

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on the females during menstruation were the ban on attending religious events (97.93%) and the ban on attending classes (65.86%). Late adolescent females were much more likely to use sanitary pads than early adolescent girls, as were girls with educated moms than those with uneducated mothers and girls from higher socioeconomic strata[1].

According to Anne Mutunda Lahme et al. (2018), the girls experience inconveniences, embarrassment, and stress as a result of their poor menstrual hygiene, which is caused by a lack of information, cultural and traditional practices, socioeconomic constraints, and environmental factors[2]. Bivariate and logistic regression analyses were utilised by Usha Ram et al. (2020) to pinpoint inequalities in exclusive usage by factors like caste, exposure to the media, and interactions with medical professionals. In general, just 37% of young women used disposable absorbents exclusively, but this number varied greatly by caste and other factors. Women from scheduled castes, scheduled tribes, and other backward classes exhibited lower odds of using disposable absorbents exclusively than women from general castes[3]. According to Shabnam Omidvar and Khyrunnisa Begum (2010), the socioeconomic status (SES) of the chosen girls and their age had an impact on the napkin/pads they chose as well as other practices like where to store them, when to change them and personal cleanliness. The older girls practiced better hygiene than the younger ones.[4]. The socio-cultural determinants of knowledge, attitudes, and menstrual hygiene practices among junior high school-aged girls in the Kpando Municipality of Ghana were examined by Lebene Kpodo et al., (2022). Results from qualitative research indicated that teachers gave adolescents more biologically specific knowledge about menstruation than did key informants (family members) at menarche. Despite the prevalence of unfavorable societal and religious views about menstruation, survey participants generally practiced appropriate menstrual hygiene.[5].

Caitlyn Shaye Weir (2015) examined the explicit cost variances among five menstruation products as well as the corresponding external costs to the environment and to human health. According to research on the environmental externalities of product raw materials, the reusable menstrual cup and the tampon without an applicator, respectively, had the least negative effects on the environment across time scales of one unit and one cycle or longer. According to the health externalities of each product, there are no known bad effects of menstruation cups, one known negative effect of sea sponges, and four known negative effects of tampons.[6] Menstruation hygiene practices were far less widespread in India's socioeconomically failing districts, according to Swagata Karjee et al. (2023). Age, education, social class, religion, where one lives, and geographical location were found to be important determinants of the use of hygienic menstruation procedures. Women's access to the media, independence, and household wealth were found to be driving forces behind the employment of clean menstruation practices[7].

Objectives

The primary objective of the study is to examine menstruating women's hygiene routines and their general availability to menstrual hygiene products. The study's particular goals are as follows:

- To analyse the conditions of menstruating women in different social groups
- To compare the maintenance of menstrual hygiene over age groups
- To create awareness about the environmental externalities due to the improper disposal of sanitary waste.
- To explore the awareness level of different social group women in the study region.

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Scope and Limitations of the Study

The Uppinangady Grama Panchayat in Puttur Taluk, Dakshina Kannada District, is the sole subject of the current study. In this study, the investigators looked into the menstrual hygiene practices among women of various ages. The study is also restricted to looking at how socioeconomic factors affect maintaining menstrual hygiene in the study area. The current study also took into account the environmental externality brought on by improper sanitary waste disposal in the study area.

Hypothesis

The following hypotheses have been developed in order to meet the study's aims.

H_{01}: There is no impact of income on the usage of menstrual hygiene products

H_{02}: There is no impact of age on the usage of menstrual hygiene products

H_3: There is no significant difference between different social groups on the maintenance of menstruation

Research methodology

The presence study combines analytical and descriptive elements. There are four sections in the methodological section. In the Puttur Taluk in the Dakshina Kannada district's Uppinangady Village, the research is being conducted. The samples are chosen at random, and the area is divided into six wards. Data from the NFHS-4 and 5 are used, as well as information from questionnaires and focus group discussions, as well as information from articles from websites and publications. A pre-made, pre-tested questionnaire is used to gather data. Using the stratified random sampling technique, 100 samples of women between the ages of 15 and 49 are collected. All socially significant groups of women are treated equally in the study area. Meetings with focus groups are also employed. The data are evaluated using straightforward analytical techniques like mean and percentage as well as sophisticated statistical analysis tools like Chi-square test and ANOVA. Microsoft Excel and IBM SPSS V20 software are used to analyse the gathered data.

Research Results, Discussion, and Interpretation

The goal of this section is to examine and analyse the research findings that were discovered during the field study period by using structured interviewing protocols in the research area. For the primary level survey, 100 sample respondents (menstruating women) were collected from Uppinangady Grama Panchayat, Puttur Taluk, D.K. In order to understand the socioeconomic conditions of menstruating women in the study region, issues relating to awareness of menstrual hygiene, menstrual hygiene materials used, amount spent on menstrual hygiene materials, disposal of menstrual waste, social restrictions during menstruation, and so forth, have been discussed.

General Information of the Respondents

To collect the required data for the study, 100 respondents in total were selected at random and questioned using standardized interview schedules. According to the poll, the study's findings indicate that the majority of respondents overall—around 58 percent—were single, while the remaining 42 per cent were married. Menopause typically occurs at the age of 49, with menstruation typically starting around the age of 12. To ensure that the respondents gave thoughtful answers, the samples were drawn from 15-year-olds. The majority of responders (43) are young people between the ages of 15 and 24. The second-highest number of respondents, 25, is in the 25-34 age bracket, followed by 23 respondents in the 35-44 age group. The lowest number of 9 responders belongs to the 44 and older age group. One of the factors that are heavily employed in social science research to understand the effects is education. According to the field survey, the majority of them have earned undergraduate degrees (approximately 41%) and master's degrees (18%), respectively, indicating a societal shift in the educational status of women in the research region. Only 10 per cent of individuals surveyed had only completed the primary level of education, compared to about 19% of women who had completed their secondary education. Religion has a significant impact on people's views and cognitive processes, particularly women who are perceived to be the religious leaders of their households and society at large. The bulk of respondents (approximately 78%) who participated in the field survey identified as Hindus, followed by Muslims (12) and Christian women (9%), who made up the remaining study participants. In Indian civilization, there are various sub-groups or classifications within and between the various religions. Social groups are divided into Scheduled Castes, Scheduled Tribes, Other Backward Classes, and General Categories. The bulk of respondents—roughly 69 per cent —were found to belong to other background classes. They also fell into the General and SCs categories, respectively, by 21 per cent and 7 per cent of them.

Annual Income of the Family

In the daily lives of people, money is quite important. Individuals' consumption habits are influenced by their family's financial situation. Approximately 36 per cent of them had yearly incomes of less than Rs. 50,000, and 20% of them made between Rs. 50,000 and Rs. 100,000, according to the primary level inquiry. Additionally, just 17 per cent of respondents' families earn between Rs. 100,000 and Rs. 200,000, while 12 per cent of respondents' families earn between Rs. 200,000 and Rs. 3,000, and 9% of respondents' families earn between Rs. 3,000 and Rs. 4,000.

Awareness on Menstrual Hygiene

Every woman in the entire world has to practice good menstrual hygiene. In the practice of cleanliness during menstruation, awareness of how to maintain menstrual hygiene becomes a crucial component. Every woman in the study area has clearly acquired knowledge of proper menstrual hygiene, according to primary level research conducted in the study zone. Among other things, the women's education and social background will have affected how aware they were.

Source of Awareness on Menstrual Hygiene

There are various sources which provide awareness on the menstrual hygiene. The sources of awareness are listed below in table-01.

Table 1: Source of Awareness on Menstrual Hygiene

Source of awareness	Responses	
	Frequency*	Percentage
(1)	(2)	(3)
Mother	36	36
Friends	15	15
TV Advertisement	09	09
News Paper	06	06
Mother and Friends	18	18
Relatives	04	04
Teachers	05	05
All the above sources	07	07
Total	**100**	**100.00**
Note: 1. *Respondents may report multiple methods so the sum may exceed 100 *Source: Data gathered through Primary Investigation, May-June 2023*		

The table-01 reveals that the 100 respondents were given the choice of choosing from among several sources for their knowledge about menstrual hygiene. Each of the sources have interpreted separately as follows.

- **Mother:** Mothers usually will be the key source for a girl child to know about menstruation and its hygiene. Of the total respondents interviewed about 36 per cent of them have expressed that mother was their source of awareness.

- **Friends:** The influence of the peer group on the awareness and discussion on sensitive topics like menstrual hygiene is remarkable. It is clearly visible in the result that about 15 per cent of menstruating women have received awareness from friends. Added to this, second high of about 18 per cent of them get the idea of maintenance of menstrual hygiene both from mother and friends.

- **TV Advertisement**: The TV Advertisements are widely used as a powerful tool for spreading awareness. Various sanitary pad brands are advertising their products on leading TV channels which provide great awareness on menstrual hygiene. About 9 per cent of them agreed that through advertisements in TV channels have provided them awareness.

- **News Paper:** Newspaper being one of the oldest mass-media keeps on educating women on the menstrual hygiene through various articles. Only 6 per cent of them have been benefited by having awareness on menstrual hygiene by daily news paper.

- **Relatives:** About only 4 per cent of them get the awareness about the menstrual hygiene by interaction with the relatives.

- **Teachers:** Teachers educate girls either before or after attaining their menarche on menstruation and menstrual hygiene. About only 5 per cent of them get knowledge about the hygiene by their teachers indoor of the class room or outdoor the class.

Method of Menstrual Hygiene used by Respondents

There are primarily 2 approaches to managing absorbents for menstrual hygiene. Traditional methods use cloth, towels, cotton wool, and other natural items; modern methods use sanitary napkins, tampons, menstrual cups, and locally produced napkins. The fact that approximately 79 per cent of respondents had only used modern menstrual hygiene products is a startling conclusion. In total, about 14 per cent of respondents in the study area claimed they have only used traditional menstrual hygiene. And 7 per cent of menstruating women practice both traditional and modern menstrual hygiene, according to studies.

Materials of Menstrual Hygiene Used

Menstrual hygiene products are the absorbents used during menstruation. They can be classified as either sanitary or unhygienic. The National Family Health Survey-5 (NFHS-5) views locally made sanitary napkins, tampons, menstrual cups, and napkins as hygienic kinds of protection. Cloth, towels, cotton wool, and other natural products are among the items used for menstrual hygiene that are considered unhygienic. Approximately 79 per cent of menstruating women in the study area used only clean menstrual hygiene products, according to the initial investigation. Furthermore, just 7 per cent of women utilised unsanitary items for period hygiene, compared to 14 per cent of respondents who used both clean and filthy materials.

Brand of Disposable Sanitary Pads Used

Nowadays, there are numerous sanitary pad brands on the market. The respondents' preferred brand of disposable sanitary pads is displayed in Table-02. The major sanitary pad brands that are sold in stores are Whisper, Stayfree, Sofy, Comfy, and Janaushadhi pads. Approximately 93 per cent of respondents in the study region used disposable sanitary pads, according to research that looked into the frequently used brand of pad. Most of them—about 52 per cent of them—have used discreet sanitary pads. Following that, 30 per cent and 8 per cent of them, respectively, had used materials from the Stayfree and Sofy brands. Only 6 per cent of people reported using sanitary pads from Comfy and Janaushadhi.

Expenditure on Products of Menstrual Hygiene

Products for period hygiene have a defined price range. Buying feminine hygiene items is akin to buying basic essentials. Numerous other factors have an impact on the price of goods. According to the poll, the majority of the whole sample—roughly 43 per cent —have spent anywhere between an average of Rs. 51 and Rs. 100 per month on menstrual hygiene products. Additionally, it was discovered that 33 per cent of them spent, on average, just 0 to 50 rupees each month, while 8% spent, on average, between 101 and 150 rupees per month. In the study region, roughly 7 per cent and 9 per cent of respondents, respectively, spend an average of Rs. 151-200 and Rs. 200 per month on menstrual hygiene products.

Disposal of used Menstrual Materials

Due to their use, menstrual absorbents must be disposed away. Proper disposal facilities become essential for environmental cleanliness and community health. Table-02 displays the place where used menstrual items are disposed off.

Table 2: Disposal of used Menstrual Materials

Place of Disposal of used menstrual materials	No. of Respondents	Percentage
(1)	(2)	(03)
Into the latrine/ toilet pit	14	14
Burn	58	58
Household rubbish (Separate dustbin)	12	12
Taken to community rubbish	08	08
Buried/ thrown to bush/ waterways	01	01
Do not dispose any materials	07	07
Total	**100**	**100**
Note: Figures in Brackets are the percentage to total. Source: Data gathered through Primary Investigation, May-June 2023		

About 58 per cent of respondents, as shown by the data in the table above, had burned their used menstrual products. If sanitary pads are burned, the air's quality will suffer. A pit or latrine was utilised by 14 per cent of menstruating women to dispose of their waste. This could cause the toilets to become clogged. Approximately 12 per cent of people have put it in a separate trash can at home, where it will subsequently be disposed of or donated to the neighbourhood trash. Approximately 8% of the respondents reported giving their menstrual waste to the community trash, where it was either burned in incinerators or dumped. Only 7 per cent of those surveyed claimed they have never disposed of anything. This makes it obvious that there is a lack of adequate menstrual waste disposal facilities.

Availability of Equality during Menstruation

Menstruation is still seen as filthy in many cultures and households. Egality is at stake in these situations. The results of the inquiry on whether menstrual respondents received equal treatment are discussed. According to field research, 80 per cent of menstruation women think they are treated equally in their families and communities while they are menstruating. This reveals an extremely positive feature that benefits women who are menstruating. Additionally, 20 per cent of the respondents believed that getting their periods was not an equally equitable experience for everyone. This exemplifies how persistently menstruating women's taboos and misconceptions exist in our society.

Nutritional and Medical Support

Menstruation has different affects on different women. Ample medical and nutritional care is crucial during these times. throughout the field study phase, it is looked into if women can get nutritional and medical support throughout their periods. The field data showed that 94 per cent of respondents had received the appropriate degree of dietary and medical support during their menstrual cycle. This shows that the family is aware of menstruation and is willing to pay for the help that is required during menstruation. Additionally, just 6 per cent of the respondents reported that they did not receive enough food and medical care during their periods.

Social Restrictions during Menstruation

Menstruation is still associated with many taboos and false beliefs in society, which sets significant constraints on women. Table-03 displays the societal restrictions that apply during menstruation.

Table 3: Social Restrictions during Menstruation

Activities Prohibited during Menstruation	Responses		Percent of cases
	N*	Percent	
Cooking, eating with other family members	22	10.8	24.4
Entering place of worship	84	41.2	93.3
Entering home from the main door	16	7.8	17.8
Sleeping in your regular place	22	10.8	24.4
Touching other family members	14	6.9	15.6
Attending college/ work	1	0.5	1.1
Attending family functions	45	22.1	50
Total	**204**	**100**	**226.7**
Note:. *Respondents may report multiple methods so the sum may exceed 100 Source: Data gathered through Primary Investigation, May-June 2023			

The percentage of menstruating women in the study area who are subject to various limitations during their periods is shown in table-03, which was previously discussed. Out of 100 responses, 11 women experienced no restrictions, whereas the other 99 did as well. It is against the law for 84 respondents (41.2%) to go to church when on their period. In Indian society, the notion that women should refrain from taking part in religious activities because they are viewed as impure during "that time of the month" is quite pervasive. 22.1 per cent of the respondents, or 45, were forbidden from going to family events. 22 respondents (24.4%) agreed that they are forbidden from cooking, eating with other family members, and sleeping in their regular bed while they are menstruating. The front door of the residence is off limits to the 16 ladies. They cannot be touched by the other 14 respondents. One respondent (0.5%) is forbidden from going to work or school while they are menstruating. When menstruating women require the most support and care, these restrictions may have a major psychological impact on them.

Open Discussion on Menstruation

Menstruation has long been a topic that is frequently discussed just among women or in private. It is hardly usual to accept menstruation as a regular, natural event. During the field portion of the survey, the respondents' views on whether or not menstruation is a subject of open discussion in the family or community are gathered. The primary level investigation revealed that a high of about 63 percent of women reported having open conversations about their periods, with the remaining 37 per cent of respondents reporting that there is no chance for an open discussion about menstruation because it is not considered to be a topic of conversation.

Impact of Annual Income on the Maintenance of Menstrual Hygiene

Table 4: Impact of Annual Income on the Maintenance of Menstrual Hygiene

Annual Income of the family and Amount spent every month on materials of menstrual hygiene								
			How much amount do you spend every month on materials of menstrual hygiene					Total
			0-50	51-100	101-150	151-200	200 and above	
Annual Income of the family	Less than 50,000	Count	14	20	1	1	0	36
	50,000- 1,00,000	Count	6	8	2	3	1	20
	1,00,000- 2,00,000	Count	6	4	2	1	4	17
	2,00,000- 3,00,000	Count	2	6	1	1	2	12
	3,00,000- 4,00,000	Count	2	3	0	0	1	6
	4,00,000 and above	Count	3	2	2	1	1	9
Total		**Count**	**33**	**43**	**8**	**7**	**9**	**100**
p-value		**0.339**						
Source: Data gathered through Primary Investigation, May-June 2023								

In the above table, we have cross tabulated for Annual Income of the family and Amount spent every month on materials of menstrual hygiene. It has been observed that the p-value obtained is greater than level of significance, which implies 0.339 (p-value)> 0.05 (α). Hence, it is clearly evident that there is no significant association between the Annual Income of the family and Amount spent every month on materials of menstrual hygiene. Therefore, we conclude that the amount spent every month on Menstrual hygiene products is not dependent on the annual income of the family in Uppinangady Grama Panchayat.

Impact of Age on use of Hygiene Products

The field inquiry gathers information on age group and sanitary product consumption. Below, in table-05, is a list of how age affects the use of hygiene products.

Table 5: Impact of Age on Use of Hygiene Products

Chi- Square Test- Age Group and Hygienic Methods				
		Hygienic Methods		Total
		No	Yes	
Age Group	**15-24**	1	42	43
	25-34	2	23	25
	35-44	3	20	23
	44+	2	7	9
Total		**8**	**92**	**100**
p-value		**.161**		
Source: Data gathered through Primary Investigation, May-June 2023				

The Chi-Square Age Group and Hygienic Methods Test results show that the p-value is 0.161. We do not reject the null hypothesis because the p-value is bigger than 0.05, or 0.161>0.05. As a result, we draw the conclusion that the characteristics of Age and Practice of Hygienic Methods of Menstrual Hygiene are mutually exclusive. As a result, we may conclude that age group has no bearing on how hygienic menstrual hygiene practices are used in the research area.

Impact of Social Groups on Maintenance of Menstrual Hygiene

To determine how social groups affect maintaining menstrual hygiene, analysis of variance has been done. The outcomes are shown in table-06.

Table 6: Impact of Social Groups on Maintenance of Menstrual Hygiene

ANOVA - Social Groups and Hygienic Methods						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Hygienic Methods	Between Groups	.072	3	.024	.317	.813
	Within Groups	7.288	96	.076		
	Total	**7.360**	**99**			
Source: Data gathered through Primary Investigation, May-June 2023						

The One-way Analysis of Variance shown above makes it evident that the p-value obtained is higher than the significance level, or 0.813>0.05. Therefore, we draw the conclusion that there is little evidence to support the idea that there are major differences in menstrual maintenance amongst the various social groups. As a result, there are no discernible differences in the maintenance of menstruation between various social groups in the research area. This demonstrates that despite the variations in social groupings, women are well informed of hygienic menstruation practices.

Findings of the Study

The following list of findings from the current micro level investigation is based on the fourth chapter:

- It is a remarkable fact that all the menstruating women in the study region are aware about the menstrual hygiene. Many factors like education, social background will have had an impact on the awareness of the women.

- A finding is that amongst the various sources of awareness on menstrual hygiene, Mothers and friends were the key source of fro creating awareness about the menstrual hygiene. Associated with the above TV channels, news paper, Relatives and teachers were also help in this regard.

- Majority of respondents (79%) have practiced to use only modern methods of menstrual hygiene which is a remarkable observation of the study.

- About 93 per cent of the respondents use disposable sanitary pads like Whisper Stayfree, Sofy, Comfy, and Janaushadhi Sanitary pads in the study region.

- It is evident that 43% of the respondents spend in the range of Rs.51-100 per month on products of menstrual hygiene. 33per cent respondents are found to have a very minimum expenditure of Rs.0-50 per month. and very less percentage of respondents have spent on an average above 100 rupees per month in the study region.

- It is found from the discussion that majority of the respondents (58%) dispose their used menstrual materials by burning them followed by about 14 per cent and 12 per cent of them have used toilet pit/ latrine and separate dustbin at home respectively.

- The majority (80%) menstruating women in the study region have been receiving equality during menstruation in their family/ community during menstruation. Meanwhile.

- Out of 100 respondents, 11 women did not face any restrictions, and rest of them faced one or more restrictions/ prohibitions to enter kitchen, worship place, regular sleeping place, entering from main door and touching family members and things.

- It is clearly evident from the Chi-square test that there is no significant association between the Annual Income of the family and Amount spent every month on materials of menstrual hygiene.

- The results have been found that there is no effect of age group on the usage of hygienic methods of menstrual hygiene in the study region.

There is no significant difference found between different social groups on the maintenance of menstruation in the study region. This shows that the women are well aware of the hygienic menstrual practices despite the differences in the social groups.

Suggestions of the Study

The researcher has been able to identify some significant findings from the current investigation. Based on it, the researcher has made a few recommendations to improve the socioeconomic circumstances of menstruation women.

Menstrual waste disposal is a major issue because there are no suitable facilities in the village regions. Therefore, methods to dispose of it were discovered, including burning, flushing, and others. The local level administration, which includes the entire area falling within its domain, must set up proper disposal methods.

The majority of sanitary pads used by disposable sanitary pad users (90%) are shown to be non-biodegradable. It is important to promote the production and use of biodegradable sanitary products because both parties will benefit much from them. Environmental externality can thus be admirably avoided.

In terms of hygiene, ladies get to spend a sizable sum on the purchase of menstrual hygiene products. Legislation is being prepared to lower the cost of sanitary pads in order to ease the strain of out-of-pocket expenses.

During menstruation, 89% of respondents reported experiencing one or more social restrictions. The general population should be well-informed about the menstrual cycles natural cycle. By doing so, needless ideas and taboos around menstruation could be lifted. Menstrual issues should be openly discussed. This would help women deal with their periods with dignity on a psychological level.

Conclusion

The current analysis demonstrates that Uppinangady village's overall socioeconomic situation is favourable. Women are found to have high levels of education. Education unquestionably has a significant impact on women's understanding of menstruation hygiene. Menstruation and managing menstrual hygiene can be made simple tasks if the necessary quantity of nutritional and medical assistance is available, open discussions about menstruation take place, and fair treatment is provided in the family. Legislation is being created to make menstrual hygiene products more affordable to purchase, but if local governments undertake more and more menstrual health awareness campaigns, the situation may change. The improvement of menstruation women's socioeconomic circumstances would be impacted by this.

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DEVELOPING A COMPREHENSIVE FRAMEWORK FOR EVALUATING THE EFFECTIVENESS OF FINANCIAL INCLUSION POLICIES IN THE INDIAN ECONOMY

Mukesh Singh*

ABSTRACT

This theoretical research paper endeavors to construct a comprehensive framework tailored to evaluate the effectiveness of financial inclusion policies in the context of the Indian economy. Emphasizing their influence on poverty reduction, economic advancement, and societal empowerment within the Indian landscape, the paper amalgamates established theories, models, and empirical insights to furnish policymakers and scholars with a methodical approach for scrutinizing the multifaceted outcomes arising from financial inclusion endeavors. The proposed framework will encompass a spectrum of dimensions pertinent to India, encompassing access to formal financial services, mobilization of savings, availability of credit, development of digital infrastructure, and the overall socio-economic upliftment of marginalized segments within the Indian population. Through this research, a more comprehensive understanding of the implications and potential of financial inclusion policies in India will be fostered, facilitating evidence-based decision-making for policy formulation and implementation.

KEYWORDS: Financial Inclusion, Indian Economy, Poverty Reduction, Economic Advancement, Societal Empowerment.

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Introduction

Financial inclusion, encompassing the accessibility and usage of formal financial services by individuals and businesses, has emerged as a crucial driver of economic growth, poverty alleviation, and social development in both developed and emerging economies. The transformative potential of financial inclusion is particularly evident in the context of emerging economies, where fostering inclusive financial systems can catalyze poverty reduction, promote economic development, and empower marginalized populations. In this light, the effectiveness of financial inclusion policies demands rigorous evaluation to ensure that their intended impacts are realized.

The Significance of Financial Inclusion Policies

Financial inclusion policies have garnered attention globally for their role in addressing systemic inequalities, enabling resource mobilization, and enhancing economic resilience. As nations chart their paths toward sustainable development, the inclusion of previously excluded individuals and communities into the formal financial system is increasingly recognized as a prerequisite for achieving inclusive growth. For emerging economies like India, where a substantial portion of the population resides in underserved rural and urban areas, the potential gains from effective financial inclusion policies are immense. Access to formal financial services can facilitate productive investments, protect vulnerable households against economic shocks, and elevate standards of living.

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The Complexity of Policy Evaluation

However, evaluating the effectiveness of financial inclusion policies is a multifaceted endeavor that necessitates a comprehensive framework capable of capturing the intricate interplay between policy interventions and diverse socio-economic outcomes. A nuanced assessment goes beyond measuring mere access to financial services; it entails understanding the broader impacts on poverty reduction, economic development, and social empowerment. This requires an examination of dimensions such as access to formal financial services, mobilization of savings, availability of credit, development of digital infrastructure, and the socio-economic well-being of marginalized populations. Developing a framework that accommodates these dimensions is pivotal for generating insights that can guide policymakers in refining strategies and making evidence-based decisions that maximize the positive effects of financial inclusion policies.

As the nexus between financial inclusion and development gains prominence, the need for a comprehensive framework becomes increasingly pronounced. This paper aims to address this need by proposing a novel framework for evaluating the effectiveness of financial inclusion policies in the specific context of the Indian economy. The proposed framework will delve into the intricate relationships between policy components and their impacts, shedding light on the mechanisms through which financial inclusion can engender poverty reduction, economic development, and social empowerment. By synthesizing existing theories, empirical findings, and practical insights, this research seeks to provide policymakers and researchers with a structured approach that enriches our understanding of the outcomes arising from financial inclusion policies in India.

Literature Review

The literature surrounding financial inclusion and its policy evaluation provides a rich tapestry of theories, models, and empirical studies that collectively illuminate the multifaceted dimensions of this complex subject. This section reviews key aspects of the literature relevant to the development of a comprehensive framework for evaluating the effectiveness of financial inclusion policies in the Indian economy.

Theoretical Foundations of Financial Inclusion

Financial inclusion's theoretical underpinnings encompass a variety of perspectives that underscore its significance in emerging economies. Beck, Demirgüç-Kunt, and Levine (2007) propose the Finance-Growth Nexus theory, positing that increased financial inclusion stimulates economic growth. Their research emphasizes the positive relationship between a developed financial sector and economic development, suggesting that improved access to financial services fosters investment, savings mobilization, and efficient resource allocation.

At the microeconomic level, Stiglitz and Weiss (1981) introduce the theory of credit rationing, highlighting how information asymmetries can lead to underserved populations facing difficulties in accessing formal credit. This concept has profound implications for financial inclusion policies, as addressing these informational challenges becomes crucial for effective policy implementation.

Models for Assessing Financial Inclusion Impact

Models aimed at evaluating the impact of financial inclusion policies recognize the intricate web of dimensions encompassed by such policies. The "Triple Bottom Line" framework (Elahi et al., 2013) advocates for a comprehensive assessment that considers not only economic outcomes but also social and environmental impacts. This holistic approach acknowledges the interconnectedness of these dimensions and emphasizes the need to avoid trade-offs between different objectives.

Banerjee and Duflo's (2019) "Economics of the Poor" framework focuses on the behavioral aspects of financial inclusion. Their model examines how access to formal financial services alters decision-making patterns and empowers marginalized populations to make more informed choices about consumption, investment, and risk management.

Empirical Studies on Financial Inclusion Policies

Empirical studies provide insights into the tangible effects of financial inclusion policies within real-world contexts. Karlan and Zinman's (2011) randomized control trial in South Africa highlights the positive outcomes of providing access to credit for small businesses and households. This study demonstrates how improved credit availability can lead to increased entrepreneurial activities and enhanced household welfare, thus underscoring the potential economic benefits of financial inclusion.

In the Indian context, Agarwal and Morduch's (2010) research on microfinance institutions sheds light on their contributions to poverty reduction and financial resilience among low-income households. Their study showcases how tailored financial services can empower individuals by providing avenues for savings and credit, which in turn leads to improved economic well-being.

Frameworks for Policy Evaluation in Developing Economies

Frameworks designed to evaluate policy effectiveness in developing economies offer insights into crafting comprehensive approaches to assessing financial inclusion policies. The World Bank's "Comprehensive Approach to Policy Evaluation" framework (World Bank, 2003) emphasizes the need to account for multiple dimensions and the complex interactions between different policy components. This approach aligns well with the intricate nature of financial inclusion, which involves various dimensions such as access, usage, and impact.

The United Nations' "Results Framework for Development" (UNDP, 2019) offers a relevant model for evaluating financial inclusion policies. By focusing on outcome-driven evaluation, this framework aligns with the broader objectives of assessing financial inclusion's impact on development outcomes, including poverty reduction and social empowerment.

The literature review underscores the intricate nature of financial inclusion's impact and the diversity of methodologies applied to evaluate policy effectiveness. The existing theories, models, and frameworks offer valuable insights into the importance of financial inclusion in fostering economic growth, reducing poverty, and promoting social empowerment.

However, despite the existing knowledge, the need remains for a tailored framework that integrates dimensions specific to the Indian economy. The proposed framework in this study aims to fill this gap by offering a structured approach that captures the complex relationships between financial inclusion policies and their far-reaching outcomes. This synthesis of existing literature and proposed framework contributes to the ongoing discourse on financial inclusion's role in emerging economies, particularly India, by offering a more comprehensive evaluation methodology.

Research Methodology

The research methodology serves as the foundation for constructing a comprehensive framework for evaluating the effectiveness of financial inclusion policies in the Indian economy. This section outlines the approach taken to develop the framework, the rationale behind the chosen methodology, and the steps involved in its formulation.

The research adopts a qualitative approach that blends elements of literature synthesis, theoretical analysis, and case study investigation. This approach is justified by the complex and multifaceted nature of financial inclusion policies and their impact on poverty reduction, economic development, and social empowerment. By synthesizing existing theories, models, and empirical findings, and supplementing them with real-world case studies, this approach enables a nuanced understanding of the intricate relationships within the Indian context.

Framework Development

- **Evaluating the Effectiveness of Financial Inclusion Policies in the Indian Economy**

The comprehensive framework for evaluating the effectiveness of financial inclusion policies in the Indian economy is designed to provide a structured approach that captures the intricate dynamics between policy interventions and their impacts on poverty reduction, economic development, and social empowerment. This framework integrates dimensions pertinent to the Indian context, encompassing access to formal financial services, savings mobilization, credit availability, digital infrastructure, and the socio-economic well-being of marginalized populations. The Indicators and significance are given for each dimensions for the understanding.

- **Dimension 1: Access to Formal Financial Services -** Percentage of population with formal bank accounts, penetration of microfinance institutions, and availability of banking services in rural areas are the indicators. They evaluate the extent to which financial inclusion policies have expanded access to formal financial services among previously underserved populations.

- **Dimension 2: Savings Mobilization -** The indicators are Growth in savings deposits, proportion of savings held in formal financial institutions, usage of savings products which

assesses the impact of financial inclusion on promoting savings mobilization and enabling households to build financial resilience.

- ▪ **Dimension 3: Credit Availability -** Increase in credit disbursements, number of microloans granted, credit access for small and medium enterprises (SMEs) are the indicators to examinehow financial inclusion policies facilitate credit availability for productive activities, fostering entrepreneurship and economic growth.

- ▪ **Dimension 4: Digital Infrastructure -** Indicators are adoption rates of digital payment platforms, availability of mobile banking services, digital literacy rates that explores the role of technological advancements in enhancing the reach and efficiency of financial services, particularly in remote areas.

- ▪ **Dimension 5: Socio-Economic Well-being of Marginalized Populations -** Reduction in income inequality, improvement in standard of living among marginalized communities, enhanced gender equality are the indicators that measures the extent to which financial inclusion policies contribute to uplifting the socio-economic conditions of vulnerable and marginalized segments.

The proposed framework represents a substantial advancement in policy evaluation methodologies, accommodating the complex nature of financial inclusion policies and their effects on diverse dimensions. By adopting this structured approach, policymakers, financial institutions, and researchers can systematically assess the effectiveness of financial inclusion policies in the Indian economy and make evidence-based decisions that foster poverty reduction, economic development, and social empowerment.

Application of framework to the Indian Economy

- • **Criterion 1: Access to Formal Financial Services**

India's remarkable journey toward financial inclusion has been powered by concerted efforts from policymakers and financial institutions. By applying the comprehensive framework, we aim to assess the impact of financial inclusion policies through a structured analysis of key dimensions.

One pivotal dimension is access to formal financial services. The provided data illuminates the progress achieved in this aspect: In 2021, an impressive 78 percent of Indians aged 15 and above held bank accounts, a substantial leap from 44 percent in 2011. This shift signifies a concerted move toward financial inclusion, particularly for marginalized groups. Additionally, India's status as the world's largest microfinance market, with a penetration of 33-35 percent and a market size of ₹2.64 lakh crore by December 2021, highlights the profound influence of microfinance institutions in extending financial access. While the provided data doesn't directly address availability in rural areas, ongoing research emphasizes the efforts to bolster banking services in underserved regions, facilitated by strategies including branch expansion and digital solutions. These data-driven insights spotlight the efficacy of financial inclusion policies aimed at broadening access to formal financial services, urging policymakers to adapt strategies that ensure the benefits of financial inclusion resonate throughout the nation.

By integrating these data-driven insights, the comprehensive framework contributes to a structured evaluation, fostering evidence-based decision-making and reinforcing the significance of advancing comprehensive financial inclusion efforts in India.

- • **Criterion 2: Savings Mobilization**

India's economic growth has long been underpinned by a robust savings rate. Over the years, household savings have played a pivotal role, contributing more than 65 percent of the overall savings. This component has shown intriguing dynamics, reflecting the influence of economic trends and policy shifts. Amidst the Covid-19 pandemic, households demonstrated resilience, with savings rising to 22.4 percent of GDP, driven by health concerns and income uncertainties. However, the reopening of the economy and pent-up demand led to a dip in savings in the subsequent year, showcasing the intricate balance between saving and spending behaviors.

The composition of savings merits attention. Households allocate savings between financial instruments and physical assets. While financial savings encompass cash, bank deposits, mutual funds, insurance, and pension funds, the attraction of physical assets, such as gold and real estate, remains pronounced. Over the past five years, physical assets constituted around 58-60 percent of household savings, surging to 65 percent recently. Yet, the decline in financial savings from Rs 30.54 lakh crore to

25.98 lakh crore in 2021-22, along with a drop in the percentage of Gross National Domestic Income (GNDI) allocated to household financial savings from 15.2 percent to 11 percent, signals a challenge. This decline, even as savings in physical assets increased, emphasizes the importance of channeling more funds into financial instruments to ensure sustained investment flows.

Incorporating these insights into the comprehensive framework provides a nuanced evaluation of savings mobilization. The data elucidates the intricate interplay between economic circumstances, shifting preferences, and policy dynamics, guiding policymakers to craft strategies that enhance financial behavior and savings allocation for robust investment and economic growth.

- **Criterion 3: Credit Availability**

Credit availability, a cornerstone of financial inclusion, emerges vividly from the data presented in the provided article. The Reserve Bank of India's data reveals a robust 15 percent YoY growth in bank credit disbursements during FY23, marking the highest rate since 2011-12. This surge, surpassing the growth rate of bank deposit mobilization, underscores the pivotal role of credit in driving economic expansion. The data suggests that financial inclusion policies are effectively facilitating access to credit, fostering economic growth, and enabling businesses and individuals to access the funds needed for development.

The microfinance sector's trajectory further reinforces this narrative. Microloans witnessed an impressive 11 percent growth during the second quarter of the fiscal year. The sector's loan portfolio of over Rs 3 lakh crore caters to 6.2 crore unique borrowers, illustrating the impactful reach of microfinance institutions. This growth signifies the success of microfinance in extending credit to individuals who were once excluded from formal financial systems. In parallel, the data reveals a glaring credit gap of Rs. 25 trillion within the MSME sector. This gap is particularly prominent for unregistered businesses in the unorganized sector, compelling them to seek alternative funding avenues. The report emphasizes that financial institutions are only able to fulfill 15 percent of the credit requirements for the sector, highlighting the pressing need for tailored policies to bridge this gap and invigorate the growth of SMEs.

The synthesized data-rich insights underline both progress and challenges in credit availability. While credit disbursements are robust, the credit gap in the MSME sector warrants targeted interventions. The microfinance sector's expansion demonstrates the tangible impact of policies on credit access. The comprehensive framework underscores the need for policies that address both the scale and specificity of credit requirements across various segments of the economy, propelling inclusive growth and economic resilience.

- **Criterion 4: Digital Infrastructure**

The digital infrastructure of India, as exemplified by the India Stack, stands as a powerful testament to the nation's transformative embrace of technology for financial inclusion. At the heart of this infrastructure is the Aadhaar system, which has successfully provided over 1.2 billion individuals with unique digital identities, marking a significant milestone towards reducing identity verification costs and enabling financial engagement. This initiative synergizes with the Pradhan Mantri Jan Dhan Yojana, a forward-looking policy that swiftly brought millions into the formal banking fold. The Unified Payments Interface (UPI) represents another pivotal layer, fostering interoperability and empowering even those without traditional bank accounts to engage in seamless digital transactions. By facilitating instant transfers and promoting a diverse range of participants under regulatory oversight, the UPI has revolutionized small retail payments, showcasing the potential of India's digital infrastructure in addressing financial exclusion.

Layers three and four of the India Stack introduce a novel approach to data management through consent, amplifying the trust factor essential for fostering a thriving digital economy. Data fiduciaries, acting as intermediaries, must seek individuals' consent before processing their data, offering a stark contrast to conventional practices where data exchange often comes at the cost of privacy. These fiduciaries play a vital role in certifying digital documents, authenticating identities, and establishing the veracity of data. As illustrated by this comprehensive framework, India's digital infrastructure is propelling financial inclusion and redefining access to formal financial services. The Aadhaar system and UPI collectively exemplify how technology-driven solutions can transcend traditional barriers, empower marginalized populations, and reshape economic trajectories. The lessons from India's experience offer valuable insights for other nations striving to bridge financial gaps through innovative digital systems, ultimately paving the way for equitable economic growth and shared prosperity.

- **Criterion 5: Socio-Economic Well-Being of Marginalized Populations**

The "State of Inequality in India Report," released by Dr. Bibek Debroy, Chairman of the Economic Advisory Council to the Prime Minister, sheds light on the intricate fabric of inequality within India. Crafted by the Institute for Competitiveness, the report's comprehensive analysis delves into the depths of disparity across key sectors—health, education, household attributes, and the labor market. The data elucidates that inequalities across these sectors not only render vulnerable segments of the population more susceptible but also act as a catalyst, propelling them into the realms of multidimensional poverty. Dr. Debroy aptly describes inequality as both an emotive and empirical issue, one intertwined with metrics and data that define its contours over time. The report, a poignant stock-taking of both inclusion and exclusion, resonates in policy debates, driving conversations that seek to redefine equity and uplift marginalized sections.

Encompassing two facets—Economic and Socio-Economic Manifestations—the report meticulously examines five critical areas influencing inequality's nature and manifestation. From income distribution and labor dynamics to health, education, and household conditions, each chapter dissects the present state, areas of concern, successes, and failures. The report's foundation rests on data sourced from various rounds of the Periodic Labour Force Survey (PLFS), National Family and Health Survey (NFHS), and UDISE+. This groundwork allows for a panoramic view of the current landscape, addressing infrastructural capacity, and the resulting impact on inequality. The comprehensive narrative drawn by the report traverses the intersections of class, gender, and region, spotlighting the reverberations of inequality throughout society. Moreover, it moves beyond wealth estimates to scrutinize income distribution, revealing intricate dynamics of purchasing power. As an illustrative instance, data extrapolation from PLFS 2019-20 accentuates that a monthly salary of Rs 25,000 places an individual within the top 10% earners. These insights underscore the need for nuanced policies that address changing income dynamics and alleviate income disparity.

This insightful report illuminates the spectrum of inequality, from its nuanced facets to its far-reaching implications. The policy considerations stemming from the report's findings advocate for targeted reforms that span various dimensions. The recommendations, ranging from establishing income slabs that provide class context to the creation of universal basic income, echo the need to reshape the socio-economic landscape. The report's data-rich revelations are poised to catalyze reform strategies, directing the nation's trajectory towards shared prosperity, social progress, and an equitable future.

Conclusion

In conclusion, this research paper has delved into the multifaceted realm of financial inclusion within the Indian economy, employing a comprehensive framework to assess the impact of various policies and indicators. Beginning with a theoretical foundation, the paper embarked on a journey to uncover the intricate dynamics of financial inclusion, guided by the research question: "How can a comprehensive framework for evaluating the effectiveness of financial inclusion policies be developed and applied specifically to the Indian economy, considering their impact on poverty reduction, economic development, and social empowerment across dimensions such as access to formal financial services, savings mobilization, credit availability, digital infrastructure, and the socio-economic well-being of marginalized populations?"

The review of literature navigated through existing theories, models, and empirical findings, substantiating the importance of financial inclusion in fostering equitable growth and societal well-being. With a meticulously designed research methodology, the paper meticulously gathered secondary data from various sources, each meticulously aligned with the framework's indicators. The application of the framework to the Indian economy provided a vivid panorama of the progress and challenges in the journey toward financial inclusion.

From the statistics revealing improved access to formal financial services among marginalized groups to the insights into the changing landscape of savings mobilization, credit availability, and digital infrastructure, the paper illuminated both successes and ongoing concerns. It unveiled the pivotal role of initiatives like Aadhaar and UPI in bridging the gap, while also highlighting the need for continuous efforts to address issues such as income disparity and inactive bank accounts. The report's coverage extended to the vital area of social empowerment, where educational improvements and improved household conditions demonstrated progress that echoes the potential of financial inclusion to uplift society.

As the paper's journey unfolded, it became evident that financial inclusion is a multidimensional endeavor, entailing intricate interactions across various sectors and strata of society. The digital infrastructure of India, epitomized by the India Stack, showcased the transformative potential of technology in democratizing access to financial services. The novel approach of data management through consent exemplified the country's commitment to safeguarding individual privacy while advancing financial engagement.

In summation, this research paper traversed a comprehensive path, from theoretical underpinnings to practical applications, painting a holistic portrait of financial inclusion's impact on the Indian economy. The insights gleaned from this study underscore the significance of continued efforts to enhance financial inclusion, reinforcing the idea that it is not merely a policy objective but a transformative force that has the potential to reshape the socio-economic landscape of India. As the nation advances towards more equitable and inclusive growth, the lessons learned from this study can serve as a guiding light for policy formulation, fostering sustainable economic development and societal well-being.

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A STUDY ON AWARENESS OF VARIOUS MOBILE BANKING METHODS AMONG WOMEN WITH SPECIAL REFERENCE TO RAJKOT REGION

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ABSTRACT

In 21st century, when the government is taking several initiatives to promote entrepreneurs especially women entrepreneurs to start up venturing and become self-reliant, the banking sector has undergone tremendous transformation from the traditional banking methods till the use of Robotics process automation(RPA) to meet up the expectations of the customers. Banking sector has become one of the most competent sector to meet up the modern needs. Banks are constantly under a pressure to innovate and improve the service provided, in this hunt, all the banks are in a race to capture the market for financial services. All the traditional services provided by the bank are today available at the fingertips of every customer. Today with the advent of digital transformation, every individual is in reach of all the financial services provided by the banks through the mobile phones. The use of mobile phone for the banking operations has been progressive from the time of its inception, yet few studies suggest the lack of awareness and use of mobile for banking among women. The current paper attempts to find the degree of knowledge of various mobile banking channels among the women in Rajkot region through a structured questionnaire. The study will focus on the awareness of women with reference to various methods used for mobile banking. To evaluate the most popular method used for mobile banking and to make banks aware of the methods/channels that needs to be marketed/advertised for the further expansion of the use of these channels.

***KEYWORDS**: Knowledge, Mobile Banking, Channels, Methods, Technology, RPA, Popular Methods, Expansion of Channels.*

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Introduction

Banking sector being the backbone of any economic system, it needs to stay abreast with the latest developments in the technology and satisfy the needs of the customers. Banking industry is one of the most blooming sector with maximum innovations to satisfy various growing needs of the customers. Banks today offer hi-tech services to enhance the customers experience through the use of Artificial Intelligence and Machine Learning. ML and AI helped in analysing huge amount of the real time data which in turn helped in understanding the precise need of the customers. The use of RPA made the processes faster and automation of repetitive processes. It is remarkable to note that most (around 51%) of the RPA solutions are implemented in Banking, Financial Services and insurance sector. RPA is used in areas like Loan Processing, Trade Finance, Management of Card operations, same day fund transfers, closing of accounts, to get KYC, verification of the Id of customers, addressing requests of customers etc.,

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The biggest challenge that banks faced at the inception of mobile banking was the Security of the transactions. Today banks have left no stone unturned to provide safety to the customers through multi-factor authentication. The tools used for MFA are not just restricted to the Password/PIN or the OTP received at the time of the transaction but the use of face recognition, voice recognition and biometrics are being extensively used to protect its customers. Today the new trend in the banking industry is the edutainment. It is the combination of 2 terms – Education + Entertainment. The services of a financial counsellor/support services are being provided to the customers as all the customers may not be finance graduates. In spite the tremendous efforts from the industry, the study reflects that people are not yet aware of the various services as well as the channels available to access the services of banks through mobile.

Statement of the Problem

Banking institutions these days provide its services through a number of channels and uses various methods to meet the growing requirements of the customers. In spite of the numerous efforts made by the banks to spread awareness, there are few methods religiously used by the customers and few are still unknown to the customers due to various reasons. This study tries to find out the awareness with reference to various methods and the most commonly used methods by women in Rajkot city.

Literature Review

Kavya Shree H and Dr. Chandrashekhar M Mathapati (2022): The study focused on awareness of various mobile banking methods with regards to demographic profile in Banglore City. The study revealed that Employment Status, service sector and average monthly income significantly influenced mobile banking awareness.

Janmejay and Dileep Singh (2020): The study had revealed that Convenience, trust and security and speed of transactions were the most affecting factors with reference to awareness and satisfaction of Mobile Banking

Ekta Sidhu, Chinmay Khare and Simran Sidhu (2020): The demographic factors such as Education, gender, age, income level, influenced the perception of mobile banking. The government intervention can change the perception of the customers and security service provided by the mobile banking operators. The customer security is the top most factor influencing the customer perceptions regarding mobile banking.

Gayatri and Bhuvaneswari (2019): The study focused on the geographical areas, the study revealed that there was less awareness of mobile banking services in rural areas as compared to urban areas, thus there should be awareness programmes exclusively addressed for rural people to enhance the use of mobile banking services.

Nidhi Singh, Neena Sinha and Guru Gobind Singh (2016): The study was on the perceptions of mobile banking services, according to this study the age of the customer and their occupation had a significant impact on their perceptions and use of mobile banking services.

Objectives of the Study

- To evaluate the current scenario of Mobile Banking
- To study the awareness of the mobile banking methods with reference to women
- To determine the demographic factors which motivates women to use mobile banking

Hypothesis

- There is no influence of age on awareness and use of various mobile banking methods
- There is no influence of marital status on awareness and use of various mobile banking methods
- There is no influence of Income on awareness and use of various mobile banking methods

Research Methodology

The current study focuses on the awareness and usage of various methods of mobile banking with reference to Women in Rajkot city. The study focuses on women from various backgrounds. Descriptive Research design is used for the study. Primary as well as Secondary data has been collected and used for the study. Primary data was collected using a structured Questionnaire, Non probability sampling – Convenient Sampling Technique. The responses from 96 people was collected and analysed for the same. Secondary data collected through various published sources like Journals, articles, research papers etc. through internet.

Data collected was then analysed according to the objectives, various data analytical tools like Tables, Charts, diagrams and graphs etc., were used for analysis.

Data Analysis and Interpretation

The study is analysed using Chi-Square method, 96 responses were collected from the women residing in Rajkot.

Demographic Description

Table 1: Demographic Factors influencing Mobile Banking

Variable	Group	Awareness Percentage	χ2-value	p—value
Age	21-30	42.56	7.977	0.239
	31-40	34.75		
	41-50	18.44		
	>50	4.26		
Marital Status	Married	65.25	2.193	.139
	Single	34.5		
Education	SSC	1.42	4.043	0.400
	HSC	30.50		
	Graduate	45.39		
	PG	18.44		
	Above PG	4.26		
Occupation	Student	10.64	16.240	0.003
	Employed	14.18		
	Self – Employed	65.25		
	Housewife	3.55		
	Retired/ Pentionnaire	6.38		
Average Monthly Income	0-250000	16.31	10.891	0.028
	25000-50000	31.91		
	50000-75000	9.93		
	75000 – 100000	17.02		
	>100000	24.82		

The analysis of the existing data reveals that married women who are graduates between age group 21-30 self-employed having monthly income between 25000-50000 had most awareness with the various methods of mobile banking. From the above table we can conclude that Occupation (p=0.003) and monthly income (p=0.028) were the only factors that influenced the awareness of various methods of mobile banking.

Methods of Mobile Banking

Table 2: Awareness of Various Methods of Mobile Banking

Variable	Group	Awareness Percentage	χ2-value	p-value
Number of Accounts in Bank	Single Bank	39.42	0.340	0.560
	Multiple Banks	60.58		
Time span of Use	Less than a year	20.44	4.095	0.251
	1 year – 2 years	29.93		
	2 years – 3 years	21.90		
	More than 3 years	27.74		
Usage (monthly)	Hardly Once	21.17	3.289	0.349
	2 to 5 times	25.55		
	6 to 15 times	5.844		
	Daily	47.45		
M-banking Application	Yes	87.59	23.520	<0.0001
	No	12.41		
SMS Banking	Yes	83.21	0.186	0.667
	No	16.79		

USSD Channels	Yes	18.98	0.931	0.335
	No	81.02		
Social Media Banking	Yes	40.88	2.712	0.100
	No	59.12		
Payments Banks/ Mobile Wallets	Yes	89.78	28.130	<0.0001
	No	10.22		
NEFT/RTGS Transactions	Yes	95.62	0.183	0.669
	No	4.38		

The above data reveals that the people with multiple bank accounts (60.58) had maximum awareness of the various methods of mobile banking and were using the mobile banking services from 1 year – 2years time span (29.93%). The majority of them used mobile banking services on daily basis (47.45). Around 87.59% were aware of M-banking Application, 83.21 were aware of SMS Banking, only 18.98% were aware of USSD Channels, 40.88% were aware of Social Media Banking, 89.78% were aware of Mobile Wallets or Payment Bank and majority of people 95.62% were aware of NEFT / RTGS Transactions. From the above table we can conclude that majority of the women were aware of the mobile banking application (p<0.0001) and Payments Bank/ Mobile Wallets (p<0.0001). The least aware model is USSD Channel.

Form of Mobile Banking

Table 3: Form of Mobile Banking used by Customers

Form of M-Banking	Percentage	χ^2-value	p-value
M-banking Application	87.59	319.40	<0.0001
SMS Banking	85.40		
USSD Channels	18.98		
Social Media Banking	40.88		
Payments Banks/ Mobile Wallets	98.54		
NEFT/RTGS Transactions	89.78		

The above data reveals that the most used method by women of Rajkot is Payments Bank / Mobile Wallet (98.54), second place is of NEFT / RTGS followed by Mobile Banking Application, SMS Banking, Social Media Banking and least used is USSD platforms to perform mobile banking operations.

Purpose of using Mobile Banking

Table 4: Purpose of using Mobile Banking

Variable	Group	Awareness Percentage	χ^2-value	p-value
Transferring Funds	Yes	92.70	1.693	0.193
	No	7.30		
Checking Account Balance	Yes	94.89	13.110	0.000
	No	5.11		
Paying Bills/ Shopping	Yes	83.94	3.170	0.075
	No	16.06		
Getting Account Alerts	Yes	93.43	2.004	0.157
	No	6.57		
Requesting New Cheque books	Yes	48.91	0.890	0.346
	No	51.09		
Changing Account PIN	Yes	80.29	2.183	0.140
	No	19.71		
Bill Alerts/ Due date Alerts	Yes	78.10	1.749	0.186
	No	21.90		
Monitoring Term Deposits	Yes	62.04	6.249	0.012
	No	37.96		
Finding status of a cheque	Yes	51.09	1.059	0.304
	No	48.91		

The above data reveals that the women of Rajkot used mobile banking for Transferring Funds (92.70 %), Checking Account Balance (94.89%), Paying Bills/ Shopping (83.94%), Getting Account Alerts (93.43%), Requesting New Cheque book (48.91), Changing Account PIN (80.29%), getting Bill Alerts/ Due date Alerts (78.10%), for Monitoring Term Deposits (62.04) and finding Status of a cheque (51.09%).

Purpose of using Mobile Banking

Table 5: Purpose of using Mobile Banking

Purpose of using M-Banking	Percentage	χ2-value	p-value
Transferring Funds	94.89	196.300	<0.0001
Checking Account Balance	96.35		
Paying Bills/ Shopping	85.40		
Getting Account Alerts	95.62		
Requesting New Cheque books	49.64		
Changing Account PIN	81.75		
Bill Alerts/ Due date Alerts	79.56		
Monitoring Term Deposits	62.04		
Finding status of a cheque	51.82		

The above data reveals that the use of Mobile Banking for the purpose of Checking Account Balance (94.8%) is maximum and least used for requesting a new cheque book (49.46%).

Limitations of the Study

- The study is restricted to only Women in Rajkot city, so the results are applicable only to women in Rajkot

- The sample size is limited to 96, collected with convenient sampling technique, thus the results cannot be generalised for all.

Conclusion

The study reveals that the majority women in Rajkot city are somewhere aware of the various methods through mobile banking services are provided by various banks. Occupation and Monthly Income were the two Demographic factors that influenced their awareness with regards to various channels of mobile banking. There is a requirement for the banking institutions to carry out awareness programmes for USSD Channels and Social Media Banking. The results are confined to the samples collected in Rajkot City through Convenient sampling techniques, the result can be further validated through extending the study to a larger geographical area and other masses other than women.

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FINANCIAL HEALTH OF LEADING INDIAN FMCG COMPANIES

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ABSTRACT

The financial health of a company is the integration of operational efficiency, profitability, liquidity, and solvency. The study aims to examine the financial health of FMCG companies. To fulfill the objective, the top 10 companies of the Indian FMCG sector were selected based on their capitalization. Financial data were obtained from the annual reports of the sample companies for seven years (from 2016-17 to 2022-23). The areas of financial health i.e., operational efficiency, profitability, liquidity, and solvency were examined through operating profit margin, net profit margin, quick ratio, and debt-equity ratio respectively. To analyze and interpret the results obtained from the tests in these areas, arithmetic mean and coefficient of variation statistical techniques were used and to check the significant difference in the tests of the sample companies, a one-way ANOVA test was applied. The results show that the difference in various areas of the financial health of the sample companies was significant. The companies are ranked as per their average results in a particular area and then scores are given to them. By summing the scores of all four areas, the financial health of the companies is classified according to five points. The results show that the financial health of two sample firms is very strong, the other two firms are strong, four companies are good, one company is weak and one sample company is very weak.

***KEYWORDS**: Financial Health, FMCG Sector, Liquidity, Operational Efficiency, Profitability, Solvency.*

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Introduction

A company has been deemed an artificial person. Like the health of an individual, the health of a company can also be examined. To check the good health of a company, it is seen how is the working efficiency of the company. How much profit is it earning? What is the company's ability to meet its day-to-day expenses and liabilities? What is being given to the debenture-holders and shareholders on their dues and what is the arrangement for their repayment? How much the company is earning and how much it is distributing? A firm's health cannot be estimated based on a few points. Hence, four main areas viz. Operational Efficiency, Profitability, Liquidity, and Solvency need to be examined to determine the financial health of a company.

- **Operational Efficiency:** The key to a company's financial success is its operational efficiency. It shows how capable the management is in managing and controlling the costs related to the production and marketing of goods and services.

- **Profitability:** The best indicator of a company's health is its level of profitability. This measure indicates how the difference between a company's total income and total expenses relates to its revenue from operations. A company can survive without profit in the short term, but to survive in the long run it must maintain a reasonable level of profitability.

- **Liquidity:** An important factor in determining the basic health of a firm is liquidity which tells how capable the firm is of repaying its short-term obligations from its liquid resources. A company can prosper in the long term only if it can survive in the short term. The main measures to examine liquidity are the current ratio and liquid ratio.

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- **Solvency:** Solvency is the firm's ability to meet its debt obligations on an ongoing basis. It also demonstrates the long-term stability of a company. To check solvency, mainly the debt-equity ratio and the debt-to-assets ratio are examined. Liquidity and solvency should be examined as a combination because, in the absence of liquidity, the goal of solvency cannot be achieved.

The present research work undertakes the Fast-Moving Consumer Goods (FMCG) sector. It is the fourth largest sector of the Indian economy which contributes significantly to the country's GDP. This sector deals with consumer products that have a short shelf life, have high demand, and are sold quickly and in large quantities, and the consumer buys them frequently and consumes them quickly. This sector operates its business on low-profit margins. This sector incorporates three main segments: (i) food, beverages, and tobacco, (ii) personal care products, and (iii) household care products. This sector deals with products related to human health. Therefore, it becomes necessary to know what is the financial health of this sector.

Literature Review

(Garg & Tyagi, 2022) conducted a comparative financial study of the FMCG sector. Three Indian FMCG companies were taken and secondary data for the year 2020-21 were used. NPM, ROI, CR, LR, EPS, ATR, and ITR were applied to achieve the objective.

(Khan, 2021) attempted to evaluate the financial performance of BSE-listed FMCG companies, Secondary data for five years were used to carry out the research. The study also finds the impact of COVID-19 on the sample sector.

(Khatri & Agarwal, 2021) measured the financial performance of selected five Indian FMCG companies. Secondary data for the period of 2016-2020 were used. CR, QR, ITR, NPR, ROA, and ATR measures were used to measure financial performance. ANOVA test was applied and it found that the sample companies were significantly different.

(Chavda, 2017) studied and compared the trend of profitability and liquidity of selected Indian FMCG companies. NPR, RONW, ROA, CR, Quick Assets Ratio, and ITR measures were used to analyze the financial performance of five leading companies. One-way ANOVA was applied to analyze the variance and the results showed a significant difference.

(Haque & Afzal, 2017) analyzed the financial performance of the Indian FMCG industry over five years (2011-12 to 2015-16). The study also measures the relationship between sales and other financial variables viz. solvency, profitability, and liquidity. Further, the study shows the impact of selected variables on sales of the FMCG industry.

(Rajhans & Nerkar, 2017) evaluated the liquidity and profitability position of Britannia Industries Ltd. It was based on secondary data for a period of five years (2012 to 2016) and appropriate measures were used to serve the objectives.

(Tamragundi & Vaidya, 2016) carried out research to show the relationship between liquidity and profitability of ten leading Indian FMCG companies. Secondary data of the sample companies for the period of 2005-06 to 2014-15 were used to satisfy the objectives. Spearman's Rank correlation was used to establish the relationship and a t-test was applied to test the hypothesis. The result confirms that there was a high degree positive relationship between both variables.

Need of the Study

After reviewing the above relevant literature, it was observed that researchers studied the financial performance of FMCG companies based on one or two areas of financial health but a financial study of the firms from the selected sector taking all four areas together was not done. Therefore, to get a complete and holistic view of the company's overall health and stability, there is a need to consider a combination of these four areas.

Objective of the Study

The study has the following objective:

- To examine the financial health of leading Indian FMCG companies.

Research Hypothesis

To achieve the above objective, the following hypothesis is proposed-

H_0:   The financial health of leading Indian FMCG companies is not significantly different.

Research Methodology

To carry out the research, the Indian FMCG sector was selected and a sample of the top 10 companies of this sector was made based on capitalization. Based on the published annual reports of these companies, financial data for 7 years (from 2016-17 to 2022-23) was used as secondary data.

Accounting Tools

Just as tests are done according to disease to get information about human health, similarly to get information about the financial health of a company, various tests are available for all four areas, and such tests are used for each of those areas which provide the best result about the area. The following accounting tests (measures) are applied to determine the health of the sample firms:

Area	Accounting Measure	Formula
Operational efficiency	Operating Profit Margin	$\dfrac{Operating\ Profit}{Net\ Revenue\ from\ Operations} \times 100$
Profitability	Net Profit Margin	$\dfrac{Net\ Profit\ after\ tax}{Net\ Revenue\ from\ Operations} \times 100$
Liquidity	Quick Ratio	$\dfrac{Quick\ Assets}{Current\ Liabilities}$
Solvency	Debt-Equity Ratio	$\dfrac{Total\ Debt}{Total\ Equity}$

Ranking and Scoring

Ranks were assigned to the companies based on their average result in a particular area and a score of 10 to1 was given taking the rank of company as basis.

Statistical Tools

To assess the health of the sample firms, arithmetic mean and coefficient of variation are used as univariate techniques. Further, for testing the differences in the health of the sample firms, one-way ANOVA is applied at 5% level of significance. MSExcel was used to process the data, to calculate the accounting and statistical measures, and to test the results.

Results and Discussion

<div align="center">

Table 1: Operational Efficiency (OPM) of the Indian FMCG Companies

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SN	Name of Co.	2017	2018	2019	2020	2021	2022	2023	Mean	CV
1	HUL	19.08	21.10	22.59	24.77	24.72	24.51	23.35	22.88	9.36
2	Nestle	20.24	20.95	23.18	23.66	23.99	24.16	21.93	22.59	6.90
3	Varun	20.98	20.93	20.29	20.50	18.84	19.20	21.73	20.35	5.03
4	Britannia	14.12	15.14	15.67	15.89	19.10	15.57	17.37	16.12	10.12
5	Godrej	20.58	21.16	20.67	21.73	21.75	19.62	18.35	20.55	5.94
6	Dabur	19.86	20.94	20.43	20.63	20.94	20.68	18.75	20.32	3.86
7	Marico	19.58	17.98	18.07	20.08	19.74	17.67	18.54	18.81	5.18
8	Colgate	23.71	26.60	27.70	26.56	31.19	30.71	29.60	28.01	9.52
9	HatsunAgro	9.00	8.68	9.41	10.36	14.45	11.32	9.67	10.41	19.07
10	Emami	30.51	28.41	26.90	25.80	30.54	29.43	25.10	28.10	7.87
	Average	19.77	20.19	20.49	21.00	22.53	21.29	20.44	20.81	4.35

Source: Own computation

Table 1 shows that the industry average operating profit margin is 20.81% and the CV is 4.35% which shows that the operating efficiency of the FMCG sector is good and the amount of variation is very less.Emami Ltd.has the strongest operating efficiency whereas HatsunAgro Product Ltd.has the weakest operating efficiency. Consistency is also visible in the operating efficiency of all the sample companies.

Table 2: Profitability (NPM) of the Indian FMCG Companies

SN	Name of Co.	2017	2018	2019	2020	2021	2022	2023	Mean	CV
1	HUL	13.54	14.71	15.42	16.98	17.01	16.95	16.74	15.91	8.69
2	Nestle	10.95	12.24	14.23	15.91	15.60	14.37	14.15	13.92	12.71
3	Varun	1.24	5.34	5.88	6.62	5.53	8.46	11.77	6.41	50.10
4	Britannia	9.77	10.13	10.45	12.02	14.09	10.72	14.21	11.63	16.00
5	Godrej	14.11	16.59	22.71	15.10	15.60	14.52	12.78	15.92	20.25
6	Dabur	16.81	17.59	16.98	16.67	17.73	16.00	14.75	16.65	6.10
7	Marico	13.70	13.08	15.42	14.26	14.90	13.19	13.54	14.01	6.31
8	Colgate	14.49	16.07	17.39	18.03	21.38	21.14	20.03	18.36	14.22
9	HatsunAgro	3.22	2.12	2.42	2.11	4.43	3.42	2.29	2.86	30.43
10	Emami	13.67	12.09	11.24	11.37	15.79	26.26	18.41	15.55	34.69
	Average	11.15	12.00	13.21	12.91	14.21	14.50	13.87	13.12	9.26

(Source: Own computation)

2 shows that the average profitability of the FMCG sector is 13.12%. This means that the amount of non-operating expenses in this sector is high. The rate of profitability is also lower than the operating efficiency and the amount of variation is also higher. In terms of profitability, Colgate-Palmolive (India) Ltd.is the strongest whereasHatsun Agro Product Ltd.is the weakest.

Table 3: Liquidity (Quick Ratio) of the Indian FMCG Companies

SN	Name of Co.	2017	2018	2019	2020	2021	2022	2023	Mean	CV
1	HUL	0.544	0.708	0.771	0.843	0.512	0.495	0.563	0.63	21.88
2	Nestle	0.342	0.453	0.447	0.327	0.384	0.436	0.459	0.41	13.66
3	Varun	0.564	0.824	0.561	0.583	0.611	0.627	0.792	0.65	16.83
4	Britannia	1.375	1.206	1.198	1.206	0.952	0.848	0.735	1.07	21.55
5	Godrej	0.664	0.705	0.957	0.944	0.981	1.276	1.151	0.95	23.02
6	Dabur	0.725	0.763	0.828	1.248	0.958	0.584	0.459	0.80	32.31
7	Marico	0.629	0.724	1.077	0.871	1.081	0.885	0.905	0.88	18.93
8	Colgate	0.687	0.963	0.872	1.074	0.812	1.347	1.432	1.03	26.91
9	HatsunAgro	0.653	0.469	0.489	0.612	0.475	0.551	0.551	0.54	13.04
10	Emami	0.747	1.000	1.095	1.258	1.259	1.506	1.740	1.23	26.60
	Average	0.69	0.78	0.83	0.90	0.80	0.86	0.88	0.82	8.42

(Source: Own computation)

Table 3 shows that the FMCG sector is not able to repay its short-term liabilities as the amount of liquid assets compared to current liabilities is 0.82. But considering the nature of the FMCG sector this ratio can be called good. The liquidity position of Britannia Industries Ltd., Colgate-Palmolive (India) Ltd., and Emami Ltd. is better than the ideal. Nestle India Ltd. is the weakest company in terms of liquidity.

Table 4: Solvency (D-E Ratio) of the Indian FMCG Companies

SN	Name of Co.	2017	2018	2019	2020	2021	2022	2023	Mean	CV
1	HUL	0.04	0.00	0.01	0.00	0.02	0.02	0.02	0.017	84.47
2	Nestle	0.01	0.01	0.01	0.10	0.07	0.14	0.11	0.064	84.27
3	Varun	1.31	1.50	1.40	1.03	0.91	0.83	0.76	1.106	26.71
4	Britannia	0.05	0.06	0.04	0.35	0.60	0.97	0.85	0.415	95.25
5	Godrej	0.75	0.56	0.47	0.45	0.20	0.15	0.08	0.380	64.62
6	Dabur	0.20	0.16	0.12	0.08	0.07	0.12	0.13	0.127	36.53
7	Marico	0.10	0.12	0.12	0.11	0.16	0.14	0.16	0.131	17.36
8	Colgate	0.00	0.00	0.06	0.06	0.08	0.05	0.04	0.041	74.25
9	HatsunAgro	2.64	3.56	1.28	1.59	1.59	1.75	1.24	1.949	43.50
10	Emami	0.27	0.16	0.05	0.12	0.06	0.14	0.04	0.119	68.06
AVERAGE		0.54	0.61	0.36	0.39	0.37	0.43	0.34	0.43	23.50

(Source: Own computation)

Table 4 shows the long-term debt servicing capacity of the FMCG sector and also shows that this sector is less dependent on debt than equity which indicates that this sector has less reliance on debt and follows the policy of trading on thick equity.

Table5: One-way ANOVA for testing the hypotheses

Area	Source of Variation	Sum of Squares	df	Mean of Squares	F	*p*-value	Status of H_0
Operational Efficiency	Between Groups	1728.901	9	192.100	64.642	0.000	Reject
	Within Groups	178.305	60	2.972			
	Total	1907.206	69				
Profitability	Between Groups	1508.251	9	167.583	24.768	0.000	Reject
	Within Groups	405.967	60	6.766			
	Total	1914.218	69				
Liquidity	Between Groups	4.254	9	0.473	11.299	0.000	Reject
	Within Groups	2.510	60	0.042			
	Total	6.765	69				
Solvency	Between Groups	24.498	9	2.722	26.279	0.000	Reject
	Within Groups	6.215	60	0.104			
	Total	30.712	69				

(Source: Own compilation from MS Excel)

To test for significant differences in the financial health of companies, separate one-way ANOVA tests were used across the four regions. The results of one-way ANOVA for all four regions show that the *p-value* of all four regions is 0.000 which is less than 0.05 which confirms the significant difference in the financial health of the sample companies of the Indian FMCG sector.

After analyzing different areas of the selected companies' financial health separately, it becomes necessary to consider a combination of these four areas to get a complete and holistic view of the firm's overall health and stability. To assess the financial health of the FMCG sector, companies have been ranked and scores are given as per their ranks. In terms of operational efficiency, profitability, and liquidity, the ranking of companies has been given from 1 to 10 in the order of the highest to the lowest average ratio, and for solvency, the rank from 1 to 10 has been given in the order of the lowest to the highest average ratio. After assigning the rank, for the four areas of financial health, the first-ranked company in each area has been given 10 points and the 10th-ranked company has been given one point. After this, scores of all four areas were summed up. Based on the total, the financial health of the companies was classified as follows: totals from 1 to 8 are very weak, from 9 to 16 are weak, from 17 to 24 are good, from 25 to 32 are strong, and from 33 to 40 are very strong.

Table 6: Rank and Score of the Financial Health of the Indian FMCG Companies

SN	Name of Company	Rank				Score					Status of Financial Health
		Operational Efficiency	Profitability	Liquidity	Solvency	Operational Efficiency	Profitability	Liquidity	Solvency	Total	
1	HUL	3	4	8	1	8	7	3	10	28	Strong
2	Nestle	4	7	10	3	7	4	1	8	20	Good
3	Varun	6	9	7	9	5	2	4	2	13	Weak
4	Britannia	9	8	2	8	2	3	9	3	17	Good
5	Godrej	5	3	4	7	6	8	7	4	25	Strong
6	Dabur	7	2	6	5	4	9	5	6	24	Good
7	Marico	8	6	5	6	3	5	6	5	19	Good
8	Colgate	2	1	3	2	9	10	8	9	36	Very Strong
9	HatsunAgro	10	10	9	10	1	1	2	1	5	Very Weak
10	Emami	1	5	1	4	10	6	10	7	33	Very Strong

(Source: Own computation)

Conclusion

It has been tried to assess the financial health of FMCG firms by obtaining their published data. To serve the objective, four important areas of financial health are examined by applying the available tests viz. OPM, NPM, Quick Ratio, and D/E Ratio. The results show that all the sample companies have positive operational efficiency and profitability. HatsunAgro Product Ltd. is using the most debtdue to which the operational efficiency, profitability, and liquidity of the company are indicating weakness. Colgate-Palmolive (India) Ltd. is minimally dependent on debts due to which this company is looking good in the other three areas also and is termed as very strong. Emami Ltd. also has very strong financial health. It is found that the number of firms with strong, good and weak financial health are two, four and one respectively. Further, the results of one-way ANOVA confirm that the sample firms are significantly different in terms of their financial health.

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Appendix

S. No.	Name of the Company	Website address
1	Hindustan Unilever Ltd.	https://www.hul.co.in/
2	Nestle India Ltd.	https://www.nestle.in/
3	Varun Beverages Ltd.	https://varunbeverages.com/
4	Britannia Industries Ltd.	https://www.britannia.co.in/
5	Godrej Consumer Products Ltd.	https://www.godrejcp.com/
6	Dabur India Ltd.	https://www.dabur.com/
7	Marico Ltd.	https://marico.com/
8	Colgate-Palmolive (India) Ltd.	https://www.colgatepalmolive.co.in/
9	HatsunAgro Product Ltd.	https://www.hap.in/
10	Emami Ltd.	https://www.emamiltd.in/

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ACCOUNTING FOR THE CONTRIBUTION OF WOMENFOLK IN A FAMILY: AN EMPIRICAL SEARCH IN JODHPUR

Priyanka Sankhee*

ABSTRACT

There is no doubt that the cleaning, cooking, and caring for children and the elderly are all productive pursuits that women engage in on a daily basis. However, it may be difficult to put a monetary value on such endeavors since they are generally carried out outside of the capitalist economy. Understanding the genuine economic production or performance of a nation and emphasizing discrepancies within the society requires an attempt to assess monetary value for the unpaid home duties that a woman does every day. This study compiles primary data from the Jodhpur area of Rajasthan in order to quantify the dollar value of unpaid labor done by rural women on a daily, monthly, and annually basis and to compare this number to the average annual income of their families. The data for this study comes from the region of Jodhpur. A calculation is made to determine both the extent of the unpaid labor and the level of degree. This research has also analyzed the women respondents' understanding on unpaid labor as well as their viewpoint on the statement "Unpaid work is for women alone.".

KEYWORDS*: Accounting, Value, Unpaid Household Work, Household Work, Womenfolk.*

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Introduction

Focusing just on women's labor force participation, rather than on a broader notion of economic empowerment, precludes a comprehensive analysis of women's economic empowerment. The market economy, in which women are more active participants, and the family economy, in which women shoulder most of the responsibility for maintaining and nurturing the market economy, are both essential components of a holistic concept of economic empowerment of women. Although it is crucial to our day-to-day well-being, unpaid domestic labor is not represented in national statistics or economic analysis since it is performed in the privacy of one's own home. Care labor, including tending to children, the sick, and the elderly, is also considered unpaid domestic labor. Other examples of household tasks include cooking, cleaning, shopping, and gathering water and firewood. Women, by virtue of socially expected gender roles, shoulder the bulk of unpaid domestic labor in every society. Since this effort will not be financially rewarded, it will be considered lower in value. Both men who gain from it and women who partake in it disregard it as "work" because of how they are treated. Spending time on unpaid domestic chores has a direct and negative effect on women's economic independence. Women's economic empowerment is stunted by the expectation that they should care for their children and the home without compensation. In addition, women's health and welfare are badly affected by the arduous labor required to fulfil home tasks, thus limiting their agency in the workplace, the community, and politics. Many women are forced to leave the workforce because they have taken on more domestic obligations after getting married or having children. Women sometimes encounter obstacles to entering the workforce owing to caring for elderly or ill relatives, even when their children no longer need childcare. Poorer women frequently have to care for children, ill, or elderly relatives on their own, whereas wealthier women are more likely to have formal sector employment and can afford to pay for childcare. This is not always the

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case, however, in the ordinary Indian community. In the spirit of tradition and status, wealthier families typically forbid their female members to work for pay, whereas women from lower-income households have little choice but to seek employment. Working from home allows women to reconcile caring for their families with contributing financially. However, studies show that women's productivity suffers when they combine work at home with domestic tasks. Home-based female workers are less productive than their paid counterparts in conventional and informal workplace settings. Unpaid household work (including care work) is more likely to fall on women who work from home because they are seen as being at home and their unpaid work is seen as primary work, whereas their paid work is seen as being supplementary work. A woman in Indian culture who is working for pay, either within or outside the home, has a double weight of work: her paid hours cut into her free time, while her unpaid hours remain constant. The government often fails to formulate appropriate social and economic policies that might diminish women's major responsibility for unpaid domestic labor since this job is invisible in national statistics and less valued than the paid employment. Therefore, it is clear that women have a greater overall burden than males, and that women, on average, work more hours per day than men do, both in terms of paid and unpaid work (Frances and Russel, 2005) [1]. The average amount of time women spend on unpaid domestic work is more than twice that of men, according to research by Kulshreshtha and Singh (2005) [2]. This includes cleaning the house and taking care of children, even if the women are working outside the home. According to data from the 32nd (1977–8; NSSO 1978) and 38th (NSSO 1983) rounds of the NSSO employment–unemployment survey, the most common reason women gave for not working was the "pressing need for domestic work" (Amitabh Kundu and Mahendra Premi 1992, p. 5). However, information on unpaid domestic work is unavailable from routine labor force surveys like the NSSO surveys (Hirway and Jose, 2011). [6]. Despite the fact that families get a great deal of value from their unpaid domestic labor, this activity is not captured by the SNA accounting system. One major difficulty is the challenge of assigning monetary values to non-SNA activities and include them in national accounts. The importance of women's unpaid domestic labor to society cannot be overstated; nonetheless, making this job more apparent will help the government create social and economic policies more hospitable to women.

While men and women both contribute to economic growth, women often bear a disproportionate share of household duties due to cultural norms and the lack of equal pay for equal work. The purpose of this research is to examine rural women's participation in economic and non-economic fields. In addition, it aims to assess how women's contributions to the economy are valued there. This is how the research is categorized. Section 2 provides background information on the literature, Section 3 discusses the research methodology, Section 4 examines the results and discussion, Section 5examines awareness about the unpaid work done by women and Section7 wraps up the study.

Literature Review

It's true that many nations have made strides in empowering women, yet gender inequality persists across the globe, as stated by the United Nations Development Programme in its Human Development Report (1995) [7]. Subsistence home labor, performed by both men and women in the early nineteenth century, was emphasized by several studies (Cowan, 1983; Strasser, 1982) [8], [9]. Gerstel and Gross (1987) [10] note that throughout time, unpaid domestic labor performed by women has been replaced by paid labor in the labor market. According to Oakley (1980) [11], women's labor, especially unpaid labor, is often valued less than men's work. Household labor or unpaid labor is not included in the definition of work, as shown by the majority of research (Larson, 1990; Soederback, 1988a) [12], [13]. Housework is not counted as "work" in academic literature. Since the 1970s, feminist philosophy and social science studies have focused on women's unpaid domestic labor. Women are responsible for the majority of unpaid labor in the home. Many research have shed light on why women still undertake a disproportionate share of housework compared to males. Delphy (1984) [14] concludes that the exploitation of women in domestic labor stems not from the nature of the job itself but rather from the fact that it is done without payment or recognition. Pleck (1977, 1985) [15], [16] observed the strains working women face in juggling the responsibilities of paid and unpaid domestic labor.

The contributions of women to the economy are not properly documented or acknowledged. Women's economic contributions are either devalued or ignored, according to Ravindram's (2010)

[17] research. Time-use data may supplement the information offered by traditional statistics on the labor force, as explored by Indira Hirway and Jacques Charmes (2006) [18]. Time-use surveys are recommended by Hirway and Jose (2011) [19] for accurately estimating labor force participation since conventional labor force surveys are inadequate. Adopting time-use surveys and asking additional follow-up and probing questions to persons engaged in these activities may provide a more accurate estimate of their economic engagement. In Gary S. Becker's (1965) [20] monetary assessment of unpaid labor, he uses a time-use technique to gather data, which explains how people use their time across a wide range of human endeavors. Individuals' time usage habits are the primary focus of time-use statistics.

Research Methodology

Most of the empirical studies on women's unpaid work highlights that unpaid work is high for the primarily housewives or full-time housewives as compared to working women's. Besides, the studies mention that measuring value of unpaid work of primarily housewives or fulltime housewives would be an appropriate valuation. It clarifies that the economic valuation of unpaid work of full-time housewives may yield the full-fledged economic value of women's unpaid work and their economic contribution to household income and national output. With this background, the present study surveys the full-time housewives or non-working women as a sample respondent to appraise the economic value of women's unpaid work in Jodhpur district.

The different methods of economic valuation of unpaid work are: (i) replacement value method, (ii) opportunity value method, (iii) labor input method or input method (iv) output method and (v) pay equity method. Among this, the replacement value method and opportunity value method are widely used by various studies. But, various studies mention that the replacement value method is the apt method for measuring unpaid work as compared to opportunity value method.

But Economists argue for the opportunity cost method as economic valuation of women's unpaid work gives the higher value than other methods. That is, opportunity cost approach computes the market wage rate according to their educational, technical and other qualification. In reality, there is no opportunity for all the housewives to substitute their unpaid work time for paid work according to their educational attainments. Based on the above justifications and relevance, the replacement method is adopted to measure the economic value of women's unpaid work in rural and urban regions.

In order to identify the various unpaid work and its monetary value, we arranged focus group discussions with rural and urban housewives and servant maids of the Jodhpur district before conducting the data collection.

At the time of pilot study, we gathered information on per day wage for household work for fixation of unpaid work. On an average, the rural and urban people have mentioned per day wage for household work at Rs.450 and Rs.600 respectively for eight hours. Based on this, the unpaid work for both regions is computed.

Results and Discussion

The study is done on 240 women from which 120 women were from urban area and 120 from rural area. The present section examines the accounting of women's unpaid work and respondents' and their family members' perception about the women's unpaid work.

Average Value of Household Works done Per Day

The value is computed for the household for both rural and urban households.

From the field survey, it is found that Rs.1800 is the salary in rural area for eight hours of household works and it is Rs.2400 in urban region per day. Given this, the present study has computed the monetary value of the household work for the time consumed. The salary is converted into minutes and values for unpaid work for house works are given in the table 1.

The total monetary value per day for house works is Rs.1018.8 and it is high for urban region (Rs.1105.2) as towards rural region (Rs.932.4). Since the salary is high in the urban region, the value registered is high even though the time involved at work is high for rural region. As found in the time consumption, the value for cooking, serving, and washing vessels and fetching water is high as towards the other listed house works.

Table 1: Average Value of Household Works done Per Day by the Surveyed Women Respondents (Value in Rs.)

S. No.	Details	Rural (n=120)	Urban (n=120)	Total (N=240)
1.	Fetching Water	75.6 (8.1)	90.0 (8.1)	82.8 (8.1)
2.	Cooking	483.6 (51.9)	555.6 (50.3)	519.6 (51.0)
3.	Serving Food	98.4 (10.5)	109.2 (9.9)	104.4 (10.2)
4.	Washing Vessels	96.0 (10.3)	112.8 (10.2)	104.4 (10.2)
5.	Washing cloth	46.8 (5.0)	85.2 (7.7)	66.0 (6.5)
6.	Cleaning House	50.4 (5.4)	69.6 (6.3)	60.0 (5.9)
7.	Purchasing or Shopping	39.6 (4.2)	51.6 (5.7)	50.4 (5.0)
8.	Gardening	19.2 (2.0)	15.6 (1.4)	16.8 (1.7)
9.	House Repair	24.0 (2.6)	4.8 (0.5)	14.4 (1.4)
Overall		**932.4 (100)**	**1105.2 (100)**	**1018.8 (100)**

Source: Computed

Average Value of Child and Aged Care Works done Per Day

The average value of child and aged care works done per day by the surveyed women respondents is given in the table 2. The child care works are bathing, feeding, preparing kids to school, taking kids to school, teaching and training to kids, refreshing kids, taking kids to park and taking care of aged. The average value registered for child and aged care work is Rs.310.8 wherein it is Rs.434.4 for urban women respondents and Rs.188.4 for rural households. The value registered is high for preparing kids to school (25.4%) and other works requires comparatively less time and value also registered accordingly.

Between the regions, the value for urban respondents for taking care of kids in all respects is high, but for the rural respondents the value is high for preparing kids to school (31.1%). Thus, the urban household spent more time for the kids since they admit their kids in convents wherein more works are given to kids and parents also spend more time with them. Regard to rural households, they spend less time and the education also gives lesser scope for the rural people. However, it is important for the rural people to spend more time with their kids and the time spend for them alone can change them to higher level.

Table 2: Average Value of Child and Aged Care Works done Per Day by the Surveyed Women Respondents (Value in Rs.)

S. No.	Details	Rural (n=120)	Urban (n=120)	Total (N=240)
1.	Bath and Feeding	30.0 (15.9)	75.6 (17.3)	52.8 (16.9)
2.	Preparing Kids to School	58.8 (31.1)	99.6 (22.9)	79.2 (25.4)
3.	Taking Kids to School	15.6 (8.0)	55.2 (12.6)	34.8 (11.2)
4.	Teaching and Training to School	10.8 (6.0)	90.0 (20.7)	50.4 (16.3)

S. No.	Details			
5.	Refreshing Kids	36.0 (19.0)	55.2 (12.6)	45.6 (14.6)
6.	Taking Kids to Park	-	34.8 (8.0)	18.0 (5.6)
7.	Taking Care of Aged	37.2 (20.0)	25.2 (5.8)	31.2 (10.1)
Overall		**188.4 (100)**	**434.4 (100)**	**310.8 (100)**

Source: Computed

Average Value of Other Works done Per Day

The other works are tailoring, managing domestic works, collecting feed for animals, supervising agricultural lands, working in agricultural lands and collecting fuel.

Table 3: Average Value of Other Works done Per Day by the Surveyed Respondents (Value in Rs.)

S. No.	Details	Rural (n=120)	Urban (n=120)	Total (N=240)
1.	Tailoring	10.8 (6.9)	80.4 (100)	45.6 (37.7)
2.	Managing Domestic Animals	46.8 (29.1)	-	24.0 (19.5)
3.	Collecting Feed for Animals	24.0 (14.2)	-	12.0 (10.1)
4.	Supervising Agri. Lands	16.8 (10.5)	-	8.4 (7.0)
5.	Working in Agri. Lands	40.8 (25.5)	-	20.4 (17.1)
6.	Collect Fuel	20.4 (12.8)	-	10.8 (8.6)
Total		**162.0 (100)**	**80.4 (100)**	**121.2 (100)**

Source: Computed

Note: Figures in Parentheses denote percentages to the Column Total

Since the time devoted to the other works are too low, the average value for the other unpaid work per day is also registered at lower level. For the rural respondents, it is Rs.162.0 and Rs.80.4 per day.

Even though the rural people involve in agricultural works, the time spent is less as they assist their husband at agricultural work and the value has registered at lower level. Agricultural is the major occupation in the rural area and they have devoted their life for the same. It is to appreciate that the female respondents involve in agricultural work for producing valuable food for the human being.

Monetary Value of Different Components of Unpaid Work in Rural and Urban Regions

The value of rural and urban women's unpaid labor in the research region was compared using a one-way analysis of variance model. Housework, caregiving, and other forms of unpaid labor are all distinct categories.

Housework, caregiving, and other forms of unpaid labor are all treated as independent variables in a One-Way Analysis of Variance. However, regions are treated separately from other variables. The research area's regions' dependent parameter fluctuation has been analyzed.

All types of volunteer activity have significant One-way ANOVA model 'F' values. Analysis further confirms that there is statistically significant variance in the monetary value of housekeeping (1167.936), monetary value of care work (1438.5), and monetary value of other unpaid labor (983.928). Both the sum and the mean sum of squares are statistically significant, which is supportive of the appropriateness model and the test's dependability (Table 4 and Table 5).

**Table 4: One-way ANOVA: Variation in Monetary Value of
Different Components of Unpaid Work**

Parameters			N	Mean	Std. Deviation	Std. Error
House Work	Rural		120	27956.40	4693.5196	428.4576
	Urban		120	33148.80	3348.4926	305.6742
	Total		240	30552.60	4829.0452	311.7136
	Model	Fixed Effects			4076.8572	263.16
		Random Effects				2596.2
Care Work	Rural		120	5624.40	2659.5842	242.7856
	Urban		120	13050.0	6937.1124	633.2688
	Total		240	9337.20	6428.4948	414.9576
	Model	Fixed Effects			5253.4232	339.1070
		Random Effects				3712.800
Other Works	Rural		120	4837.2	2516.6496	229.7376
	Urban		120	2400.00	1536.1196	140.2279
	Total		240	3618.6	2412.386	155.7188
	Model	Fixed Effects			2084.848	134.5764
		Random Effects				1218.600

Source: Calculated

- **Housework**

**Table 5: Results of One-way ANOVA: Variation in Monetary Value of
Different Components of Unpaid Work**

Parameters		Sum of Squares	df	Mean Square	F	Sig.
House Work	Between Groups	134805088.80	1	134805088.80	1167.94*	.000
	Within Groups	109881720.00	238	461687.90		
	Total	244686808.80	239			
Care Work	Between Groups	275697676.80	1	275697676.80	1438.50*	.000
	Within Groups	182456476.80	238	766623.852		
	Total	458154153.60	239			
Other Works	Between Groups	29699719.20	1	29699719.20	938.928*	.000
	Within Groups	28735819.20	238	120738.736		
	Total	58435538.40	239			

Source: Calculated

Average monetary value of housework per month in the study regions is Rs.30552, Rs.27948 for rural region and Rs.33144 for urban region, respectively. Variation between rural and urban regions is Rs.5196 per month and this variation is twofold higher than the difference between study area and urban area. Major reason for the variation in monetary value of housework between urban and rural is the differences in market rate for the unpaid work related to the housework in both regions. In case of urban regions, most of the households are using housekeeping workers to maintain the day-to-day housework. Therefore, in urban area there is much demand for housekeeping service and gives more monetary value for housework. In rural areas, all the household works are frequently done by the housewives and there is no need for housekeeping and other types of servants. It leads less value to the monetary value of housework in the rural region.

- **Care Work**

Average monetary value of care work per month in the study regions is   Rs.9336, Rs.5616 for rural region and Rs.13044 for urban region, respectively. The difference between rural and urban regions is Rs.7428 per month. Similar to variation in household work, the variation between rural and urban is twofold higher than the difference between study area and urban area i.e. Rs.3720. Major reasons for the variation are as follows: (i) In rural area, no. of care takers is low as compared to urban area. The aged people are able to do their daily necessities by their own due to their health

condition. But in urban areas, the aged population are facing ageing diseases, communicable and non-communicable disease. (ii) The children in rural area are managed by the elder members of the family and sometimes the parents brought them in to the work place and taking care of the children. It is just opposite in urban areas, it is not having the elderly members in the family due to nuclear family system and the female members of the family need to spent time on taking care of children. (iii) The cost for care work is substantially high in urban work as compared to the rural regions. Therefore, there is variation in monetary value of care work in between rural and urban regions in the study area.

- **Other Works**

Average monetary value of other work per month in the study regions is   Rs.3612, Rs.4836 for rural region and Rs.2400 for urban region, respectively. The difference between rural and urban regions is Rs.2400 per month. The monetary value of care work in rural region is equal to the double the amount of the monetary value of other works in urban region. Unpaid household works other than house work and care work is high in rural areas than the urban regions. The household of urban region is concentrating only on house related unpaid work. Whereas in rural areas, the female members of the family are involving in agricultural and agricultural allied activities also. Thus, there is wide difference in monetary value of other unpaid works between the urban and rural households of the study region.

In total, average monetary value of housework per month in the study regions is Rs.30552, Rs.27948 for rural region and Rs.33144 for urban region, respectively. Variation between rural and urban regions is Rs.5196 per month and this variation is twofold higher than the difference between study area and urban area. Major reason for the variation in monetary value of housework between urban and rural is the differences in market rate for the unpaid work related to the housework in both regions. Average monetary value of care work per month in the study regions is   Rs.9336, Rs.5616 for rural region and Rs.13044 for urban region, respectively. The difference between rural and urban regions is Rs.7428 per month. Major reasons for the variation are as follows: (i) In rural area, the aged people are able to do their daily necessities by their own due to their health condition. (ii) The children in rural area are managed by the elder members of the family and by keeping them in working place. (iii) The cost for care work in urban area.

Average monetary value of other work per month in the study regions is   Rs.3612, Rs.4836 for rural region and Rs.2400 for urban region, respectively. The difference between rural and urban regions is Rs.2400 per month. The household of urban region is concentrating only on house related unpaid work. Whereas in rural areas, the female members of the family are involving in agricultural and agricultural allied activities also.

Sum of Squares and Mean Squares both show considerable variance between categories, verifying that various aspects of unpaid labor in the research area have distinct monetary values. In addition, differences between and within groups may be understood via the use of the Sum and Mean Squared Distinction statistics. Finally, it demonstrates that the monetary worth of various aspects of unpaid labor varies throughout urban and rural areas, within regions, and across the research area.

Women's Unaccounted Economic Contributions to Household Income in Rural and Urban Regions

The monetary value of women's unaccounted economic contribution to household income through their unpaid work may varies between urban and rural areas. Total monetary value of unpaid work is considered as unaccounted economic contribution to household income and treated as dependent variable and urban and rural regions are the explanatory variables differentiating the women's unaccounted economic contributions to household income.

Table 6: One-way ANOVA: Variation in Unaccounted Economic Contributions to Household Income

Details		N	Mean	Std. Deviation	Std. Error
Rural		120	38421.600	8234.8522	751.7360
Urban		120	48598.800	7331.8148	669.3000
Total		240	43510.200	9302.2596	600.4584
Model	Fixed Effects			7796.4208	503.2568
	Random Effects				5088.600

Source: Calculated

Women's unrecorded contributions to household income in the study area were analyzed using a one-way analysis of variance model. Total monetary value of unpaid labor is regarded as the dependent variable in the One-way ANOVA model, with urban and rural areas serving as the explanatory factors. The research area's regions' dependent parameter variations has been analyzed.

The calculated 'F' value of the One-way ANOVA model is 1226.68 and found significant at 5 per cent level. The result of the analysis reveals that the average value of women's unaccounted economic contributions through their unpaid to the household income is Rs.43500 in the study area as a whole, Rs.48588 for urban area and Rs.38412 for rural area, respectively. It clearly conveys that there is wide variation in unaccounted economic contributions to household income between rural and urban region. The actual difference is Rs.10176 between urban and rural regions and it is Rs.5088 between study area's average and urban region's average. The difference between rural and urban is equal to absolutely two times of the above mentioned comparison. Also, both the sum of squares and the mean sum of squares are statistically significant, which provides further support for the validity of the test and the appropriateness model. Further, they are confirming the variation in unaccounted economic contributions to household income between the regions, within the region and study area as whole (Table 6 and 7).

Table 7: Results of One-way ANOVA: Variation in Unaccounted Economic Contributions to Household Income

Details	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	517876999.200	1	517876999.200		
Within Groups	100462734.000	238	422112.328	1226.868*	.000
Total	618339733.200	239			

Source: Calculated

Note: * represent significance at 5 per cent level

Important reasons for the variation in women's unaccounted economic contributions to household income between urban and rural regions are as follows:

- The market rates of household works are quite high in urban areas as compared to rural area due to huge demand in urban regions.
- The social, economic and demographic status of the urban and rural households are different in many dimensions and differentiate the total monetary value of women's unpaid work.
- In urban regions, due to the nuclear family setup there is no way to share the household work and it is inverse in rural regions and it differentiates total monetary value of women's unpaid work.

In the study region, there is variation in women's unaccounted economic contributions to household income between rural and urban regions. The result of the analysis reveals that the average value of women's unaccounted economic contributions through their unpaid to the household income is Rs.43500 in the study area as a whole, Rs.48588 for urban area and Rs.38412 for rural area, respectively.

Awareness on the Value of Unpaid Work

Women involves more in unpaid works as compared to the male. In particular, in India, this is a custom followed for long generation where female is limited her carrier within the household unpaid work. But, at present, the educational attainment of women has brought some changes among the female and started to speak about the unpaid work and their rights. In this view, the researcher has analyzed the women respondents' awareness on unpaid work. The awareness is measured as aware, partially aware and not aware.

Of this, majority of the women respondents are not aware about the value of unpaid work (90%) and they don't have a thinking about the unpaid work. The awareness on the value of unpaid work is 10 per cent among the rural women respondents. Thus, it is understood that majority of the surveyed women respondents do not aware of the value what they perform for their family. Still there is not wide awareness among the women, which is an advantage for the male dominance.

Even though the female does not have awareness on the value of unpaid work, the researcher has posed certain questions to analyze their intension on the unpaid work. The questions posed to them would through some insights to the women community on unpaid work. With addition, the research would bring the intension of the women on unpaid to the light.

The researcher examines the respondent's opinion on "unpaid work is for women alone." The opinion of the respondents was asked disagree, partially agree, agree and strongly agree. Of the total surveyed women respondents, 80 per cent of them have opined that they disagree with the concept "unpaid work is for women alone". Still in the rural region the women are attached with their tradition and feel uneasy to even register their opinion to reject that the "unpaid work is for women alone".

Respondent's Expected Salary per Month for Unpaid Work

The women work without leisure time and sacrifice the whole life by serving to the household through unpaid works. The perception of the respondents regarding the expected salary of them is gathered. The expected salary of the women respondents is grouped as less than Rs. 10,000, between Rs. 10,000 to Rs. 15,000, between Rs. 15,000 to Rs. 20,000 and above Rs. 20,000.

In the surveyed regions, 40 per cent of the urban respondents expect less than Rs. 10,000 and 30 per cent of them expect between Rs. 15,000 to Rs. 20,000. But, the rural women expect below Rs. 15,000 and 80 per cent comes under this category. The maximum salary of above Rs. 20,000 is expected only by 10 per cent of the urban women respondents and none were in rural region.

Conclusion

It clearly conveys that there is wide variation in unaccounted economic contributions to household income between rural and urban region. Important reasons for the variation in women's unaccounted economic contributions to household income between urban and rural regions are (i) the market rates of household works in urban and rural regions, (ii) the social, economic and demographic status of the urban and rural households, (iii) family structure and sharing of unpaid household work among the female members of the family.

As a whole, the monetary expectation for the unpaid work is high for the urban respondents while rural respondents do not have such computation in their mind on the unpaid works. Still the rural people fail to think their huge task of completing their unpaid works and to convert the same into monetary value. Thus, it is important for the rural households to consider the unpaid work and to give the much importance for them by sharing their unpaid works.

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ROLE OF STATE BANK OF INDIA IN FINANCIAL INCLUSION: A REVIEW CASE STUDY OF RAJASTHAN STATE

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ABSTRACT

Financial inclusion is a cornerstone of economic development, aiming to empower marginalized populations by providing them access to formal financial services. This review paper delves into the intricate role of the State Bank of India (SBI) in fostering financial inclusion within the distinctive socio-economic landscape of Rajasthan. Drawing from a synthesis of existing literature, case studies, and empirical evidence, the paper explores the multifaceted contributions of SBI in advancing inclusive financial practices and unlocking economic opportunities in the state. The review examines the concept of financial inclusion, imperatives specific to Rajasthan, and comprehensively analyzesSBI's initiatives. Case studies and empirical evidence illuminate successful models and assess the socio-economic impact. Moreover, the paper addresses challenges and critiques, offering strategic recommendations for enhancing the effectiveness and sustainability of financial inclusion efforts. Through this synthesis, the review contributes to a nuanced understanding of SBI's role in financial inclusion in Rajasthan and offers valuable insights for policymakers, researchers, and practitioners committed to promoting inclusive economic growth.

KEYWORDS: Financial Inclusion, State Bank of India, Rajasthan, Socio-economic Development, Banking Initiatives, Case Studies, Empirical Evidence.

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Introduction

India, with a burgeoning population of approximately 136.64 crores, ranks as the world's second-largest developing country. The majority of this populace resides in rural and semi-urban areas, where agriculture and related activities constitute the primary sources of income. In these regions, daily wage earnings are prevalent, wherein individuals earn money only on days they engage in work. Unfortunately, a significant portion of the rural demographic is characterized by low levels of education or illiteracy, resulting in limited awareness of the financial services available in India.

The challenges faced by rural communities are compounded by poor infrastructural facilities, leaving them vulnerable to various risks and uncertainties in their daily lives. Notably, financial institutions tend to concentrate their business operations in commercially developed areas, where profit-making opportunities are maximized due to established infrastructure. This commercial focus often results in financial institutions directing their attention toward key customers and established businesses, rather than addressing the financial needs of the underprivileged population.[1][2]

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To address this disparity, the Government of India introduced the concept of "financial inclusion" in 2005. This initiative seeks to bridge the gap by extending financial services to the marginalized and underprivileged segments of society, particularly in rural and semi-urban areas. The aim is to empower individuals with limited access to education and financial resources, offering them opportunities for economic upliftment and improved quality of life.[3]

Financial inclusion, the cornerstone of inclusive economic growth, stands as a critical determinant of social equity and prosperity. As we navigate the intricate fabric of India's economic landscape, the role played by the State Bank of India (SBI), one of the nation's foremost banking institutions, in steering the course of financial inclusion becomes a subject of profound significance. This paper delves into the nuances of this relationship, focusing with particular depth on the case of Rajasthan, India's largest state. Rajasthan, with its diverse demographic composition, varying economic structures, and a blend of urban and rural dynamics, serves as an intriguing canvas to explore the intricate interplay between banking initiatives and financial inclusion. Against this backdrop, the study unfolds to dissect the strategies employed by the State Bank of India to advance financial inclusion within Rajasthan, aiming to unravel the socio-economic impact, identify challenges, and offer insights that resonate not only within academic spheres but also extend to the realms of policy formulation.[4]

Financial inclusion, as a concept, encapsulates the provision of universal access to a broad spectrum of financial services, ranging from basic banking facilities to sophisticated investment opportunities. Its significance lies in its potential to bridge socio-economic disparities, empower marginalized communities, and fuel inclusive economic development. In the context of Rajasthan, a state marked by a confluence of cultural diversity, geographic heterogeneity, and economic complexities, the imperative for financial inclusion gains added salience.[5]

This study is poised at the intersection of academic inquiry and practical relevance. It contributes to the evolving literature on financial inclusion by offering a granular analysis of the strategies undertaken by a major financial institution, the State Bank of India, in a region characterized by its own set of challenges and opportunities. The significance is underscored by the acknowledgment that effective financial inclusion strategies must be tailored to the specificities of each state, considering factors such as the rural-urban continuum, cultural intricacies, and economic differentials.[6][7]

Financial Inclusion: India's Evolution

The concept of financial inclusion is deeply ingrained in the narrative of India's economic journey. Its roots trace back over four decades, coinciding with pivotal moments in the country's banking history. The nationalization of commercial banks in 1969 and 1980 marked significant milestones, setting the stage for subsequent developments. In 1975, Regional Rural Banks were established, ushering in a new era of financial accessibility for rural communities. The post-1991 banking sector reforms further catalyzed change, resulting in a remarkable increase in the number of commercial banks in India.[7][8]

According to the Economic Survey 2012-13, the proliferation of commercial banks reached a noteworthy figure of 8,262 by 2013, a stark contrast to the 1969 count of 102,342 branches. This expansion had a tangible impact, reducing the number of people served per branch from 65,000 to 13,756. This transformation reflects the concerted efforts to bring financial services closer to the people, fostering a more inclusive banking landscape. In the Indian context, financial inclusion emerges as a crucial instrument for fostering economic growth. Despite India's status as a burgeoning economy, its financial service coverage lags behind that of other emerging nations. The formal initiation of financial inclusion in India dates back to 2005 when K.C. Chakraborty spearheaded a pilot study in Mangalam village, Pondicherry. This village made history by becoming the first in India to provide banking services to all its residents. A pivotal aspect of this initiative was the issuance of General Credit Cards (GCC) to economically disadvantaged individuals, simplifying their access to credit facilities.[9]

The World Bank defines financial inclusion as "the process of ensuring access to appropriate financial products and services needed by vulnerable groups, such as the weaker section and low-income group, at an affordable cost." In aligning with this definition, India's journey of financial inclusion is not merely a numerical expansion of banks but a concerted effort to empower marginalized sections of society by making financial services more accessible and affordable.

Conceptualizing Financial Inclusion

Financial inclusion, a multifaceted concept, is articulated by various scholars and institutions, each providing unique insights into its essence and scope.

"The Committee on Financial Inclusion of the Government of India defines financial inclusion as the process of ensuring timely access to financial services and adequate credit where needed by vulnerable groups, such as weaker sections or low-income groups, at an affordable cost." This comprehensive definition emphasizes both accessibility and affordability as integral components of the financial inclusion narrative. It underscores the importance of extending financial services to those traditionally underserved, ensuring that economic vulnerabilities do not hinder access to essential financial resources.[10]

Reddy (2007) offers a succinct perspective on financial inclusion, framing it as the provision of bank accounts to each household and their integration into the broader banking system. This vision aligns with the broader goal of democratizing access to financial resources, recognizing the household as a fundamental unit of economic participation.

Lcyshon& Thrift (1995) expand the conceptual framework, defining financial inclusion as a process that serves specific social groups, enabling individuals to access the formal financial system. This perspective acknowledges the historical exclusion of certain social groups and highlights the importance of targeted initiatives to bridge this gap.

Sinclair (2001) adds a nuanced dimension to the discourse, characterizing financial inclusion as the ability to access necessary financial products and services in an appropriate manner. This definition delves into the qualitative aspect of inclusion, emphasizing the importance of tailored financial solutions that align with the diverse needs and circumstances of individuals.

The World Bank, a pivotal player in the global financial landscape, succinctly defines financial inclusion as "the process by which individuals and businesses can have timely access to financial products and services. Banking, equity, credit, insurance are examples of financial products and services." This encapsulates the breadth of financial inclusion, encompassing a spectrum of services essential for holistic economic participation.

In amalgamating these perspectives, financial inclusion emerges as a dynamic process characterized by accessibility, affordability, integration into formal systems, targeted outreach to vulnerable groups, and the provision of a diverse array of financial products and services. Recognizing the uniqueness of each definition adds richness to our understanding of the comprehensive nature of financial inclusion and its transformative potential in fostering inclusive economic growth.[12]
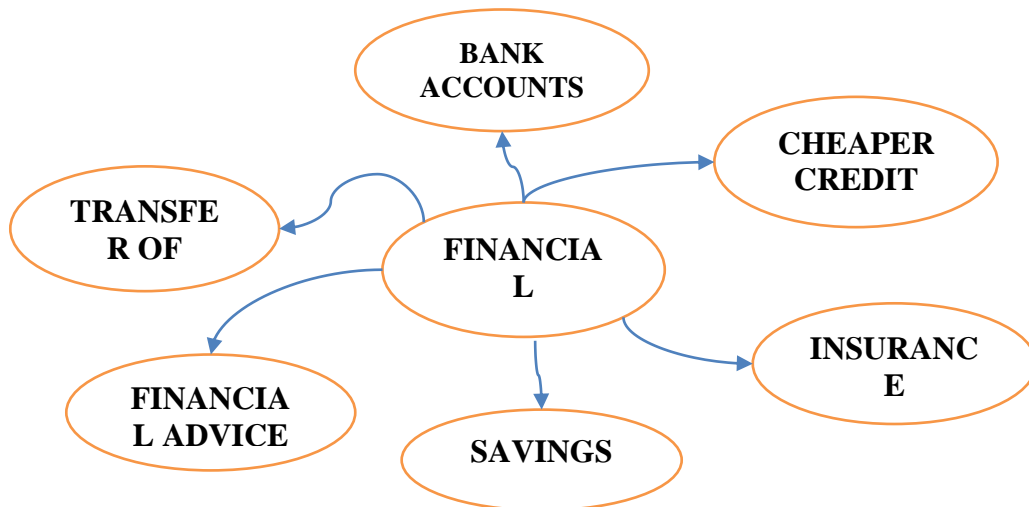

Figure1: Conceptualizing Financial Inclusion

It is helpful in maintaining a balance between surplus and deficit units and also helps in bringing the poor and disadvantageous unit under the growth category. Crucial objectives of financial inclusion are:

Literature Review

Financial inclusion is a key driver for sustainable economic growth and development, serving as a catalyst for poverty alleviation and social empowerment. The term encapsulates the endeavor to ensure that all individuals and businesses, irrespective of their economic status or geographical location, have access to essential financial services. In the global context, the pursuit of financial inclusion has garnered significant attention as a means to bridge socio-economic disparities and foster inclusive development.

In the Indian landscape, financial inclusion has emerged as a pivotal component of the national development agenda. The government, along with regulatory bodies, has implemented various policies and initiatives to bring the unbanked and underbanked populations into the formal financial sector. One such transformative initiative is the Pradhan Mantri Jan Dhan Yojana (PMJDY), launched with the vision of providing universal access to banking facilities. This ambitious program has significantly expanded the outreach of financial services, bringing millions of previously excluded individuals into the banking fold.

Amid this landscape, the role of banks, as key facilitators of financial inclusion, becomes paramount. Banks act as the primary conduits through which financial services reach the masses, playing a crucial role in designing and implementing initiatives that cater to the diverse financial needs of the population. The State Bank of India (SBI), being one of the largest and oldest banking institutions in the country, assumes a particularly significant role in shaping the financial inclusion narrative.

As we delve into this study, the aim is to comprehensively explore the background of financial inclusion, understanding its global significance, and contextualizing it within the Indian milieu. The following chapters will unfold the specific role that the State Bank of India plays in this landscape, examining its initiatives, challenges faced, and the socio-economic impact on the diverse population of Rajasthan. Through this exploration, the study seeks to contribute to the broader discourse on financial inclusion and provide insights into effective strategies for fostering inclusive development.

Dwibedi, Pruthiranjan & Mishra, Jyotisankar (2023) The purpose of this research is to examine the relationship between financial inclusion and economic progress from 2007 to 2016. In order to evaluate secondary data collected from the RBI website and SBI's annual report, multiple regression analysis was the main statistical approach used. This study found that these three independent variables—the number of SBI bank branches, the rate of expansion of SBI ATMs, and the SBI credit deposit ratio—had a substantial effect on the dependent variable, which is the number of SBI branches. GDP growth in India. On the other hand, when considering all three independent variables together, GDP growth is significantly affected by the total number of SBI bank branches, but not by the other two. There are several definitions and interpretations of the term "financial inclusion" throughout the world. One emerging strategy for national economic growth that has the potential to lift people out of poverty is financial inclusion. New policies on the provision of appropriate banking services to the general public, including the rich and the disadvantaged, are likely to emerge as a result. It allows us to narrow the gap between the wealthy and everyone else in our present setting. One of the most reliable pillars upon which a nation's advancement, economic development, and expansion rest is its banking industry. This is due to the fact that the needs for financial products differ across individuals and nations.[1]

C., Mr. Ravindra & C., Ms. Tejashwini (2023) In order to achieve inclusive development more quickly, India has recently made a number of moves toward economic inclusion. In this research, we looked at how well various Indian states have done in terms of financial inclusion. This study has calculated a comprehensive level of financial inclusion for each state by using the Rotated Principal Component Analysis approach. Ten indicators of economic inclusion were taken into account for this assessment. Data from the Indian government and the Reserve Bank of India (RBI) were utilized in this analysis. Rankings of the states according to the Composite rating show that most of the southern states have achieved better economic inclusion, even if Goa is the greatest nation in the world. Having said that, there is a large gap across the states of India when it comes to financial inclusion. This study found a strong positive correlation between human development and the financial inclusion of India's states.[2]

Rani, Dr. (2023) Financial inclusion (FI) refers to the process by which mainstream institutional actors make sure that all parts of society, including vulnerable ones like low-income groups and weaker

sections, have access to affordable, transparent, and suitable financial products and services. The banking industry has made great strides in financial inclusion, which has allowed more regular people to have access to banking goods and services. It is the driving force behind the country's economic growth. Since finance wasn't seen as a driver of progress, it has gone a long way. In light of such, the purpose of this article is to examine financial inclusion in India.[3]

Ramesh, Nithyashree & Vallabhaneni, Mounica (2023) An endeavor to ensure that underprivileged populations have access to and make use of financial services is known as financial inclusion. Increasing the quality of life and empowering farmers are two main goals of formers financial inclusion. Despite the availability of several financial services tailored specifically to farmers, such as KCC, PMFBY, Crop Loan, etc., their use falls short of expectations. The purpose of this article is to examine the relationship between financial services for farmers and their level of financial inclusion. We use statistical tools like SPSS and MS Excel to evaluate the data we gathered from 160 farmers, who provided us with the main data. Among the statistical methods we used: correlation and parametric testing. According to the research, farmers are becoming more financially included as a result of digital financial services, but they are often unaware of the many options open to them.[4]

Pushp, Aman & Gautam, Rahul & Tripathi, Vikas (2023) Particularly in emerging markets like India's, financial inclusion is becoming a paradigm for economic success. It is a crucial indicator of a nation's overall economic development. The impact of Financial Inclusion (FI) on attaining sustainable development, however, remains a matter of contention. The purpose of this research is to ascertain whether or not financial inclusion (FI) contributes to the attainment of Sustainable Development Goals (SDG) in India, and if so, to what extent do internet users impact this relationship. For the period of 2017–2019, secondary data has been gathered from sixteen Indian states and one union territory. Hence, the data sample is up-to-date and spans a wide range of countries. The information comes from the Pradhan Mantri Fasal Bhima Yojana (PMFBY) and NITI Aayog. According to this study's results, FI is favorably and significantly related to India's SDGs. Nevertheless, the favorable correlation between FI and SDG diminishes as the number of internet customers increases. For the first time, internet customers served as moderators and PMFBY and SDG were used. The results have important policy consequences for expanding access to financial services and boosting the economy.[5]

Rathee, Ankit & Barak, Ashish & Solanki, Poonam (2023) This study offers a framework for assessing the current state of the industry by focusing on two keywords: banking services and financial inclusion. With the use of Excel, RStudio, and the VOS viewer, 853 study s were analyzed bibliometrically. From 2004 until 2022, the study s were retrieved and sorted via Scopus. The Bibliometric package includes Biblioshiny, an R-based online interface for obtaining primary data, secondary sources, and authors; VOSviewer is used for creating a network of keywords and nations; and Bibliometric is used for drawing conclusions. In 2004, the database released the first article on the topic. Financial inclusion is crucial for emerging economies like India's, as seen by the country's prominent placement among the top 20 sources and authors. This topic is crucial to a country's growth since it promotes equality, social welfare, and living standards; it clusters with concepts like Financial Inclusion, Social Inclusion, growth, Financial Literacy, Gender, and others. It would make it easier to do higher-quality research, which would increase the number of scholarly articles published in the subject.[6]

Panwar, Varun & Jha, Ashutosh & Bhura, Pawan Kumar (2022) The term "financial inclusion" refers to the practice of expanding access to banking services for low-income individuals and families. The fundamental goal of financial inclusion is to ensure that all individuals have equal access to banking, insurance, credit, and investment opportunities such as mutual funds, pension plans, and child investment plans. This includes savings and payments through bank branches, automated teller machines, cheques, and electronic transfers, as well as life and non-life (general) insurance. In this article, we want to understand the current state of financial inclusion in India and the several steps done by the government to achieve this goal. Examining the significance of financial inclusion in societal and economic development, the article emphasizes the effects of financial inclusion in economies both with and without it.[7]

Yadav, Manjari & Sahu, Tarak & Maity, Sudarshan (2022) Low financial inclusion is a significant problem that requires fixing in emerging nations. This research aims to assess the

effectiveness of public and private sector banks in India in carrying out their mandate to promote financial inclusion. The years 2009–2010 through 2019–2020 are included. Technical criteria are used in a Data Envelopment Analysis comparison of the public and private sector banks' contributions to financial inclusion programs. According to the Technical Efficiency ratings, commercial banks are better able to do this than government agencies. Because of their wasteful use of resources, public sector organizations are falling behind the private sector. To catch up, they should work with private banks to promote financial inclusion and adopt tech-based services like internet and kiosk banking.[8]

Dwivedi, Ph.D., Rajeev & Alrasheedi, Melfi (2022) The so-called financial inclusion that is happening in India is benefiting a select few, while the vast bulk of the people is missing out. The Indian economy is facing a new challenge: financial inclusion. The study's overarching goal is to learn how people in rural and semi-urban India are making use of technology-enabled financial services, how these services contribute to financial inclusion, how these services are being managed and served under the current COVID-19 scenario, and how these services are reaching out to these areas. Based on primary and secondary sources, this study examines government policies, Fintech applications, and the scenario in India before, during, and after COVID-19 and demonetization. The study's results suggest that in around six years, the government demonstrated its purpose by creating 411 million accounts, which is a record for financial inclusion. Financial inclusion has never been closer to its full potential than it is now, thanks to meteoric rises in mobile subscribers, 4G, the internet, and smartphones.[9]

Maity, Sudarshan & Sahu, Tarak (2022) Maintaining and strengthening one's social and economic position, as well as covering all necessities, requires access to financing. People avoid paying excessive interest and fees, can't save for future purchases or their children's education, and can't invest after retirement unless they have a legitimate account with any approved financial institution. Financial and social inclusion may be enhanced when marginalized and vulnerable people participate in the formal financial system. This chapter presents the research's empirical results after examining financial inclusion and a few factors in the Indian setting. Also included in this chapter are estimates of the relationships between financial inclusion and the study's macro concept variables. This chapter provides a high-level overview of the factors that influence financial inclusion and inequality in India's regions and states. Finally, this chapter discusses the important results and how to understand them.[10]

Maity, Sudarshan & Sahu, Tarak (2022) For many nations' regulators and legislators, ensuring access to financial services is a top priority in the pursuit of long-term economic sustainability. In a developing economy, this book offers a concise guideline regarding financial inclusion and the banking system's role in it. This will help banks and regulators choose an efficient banking structure with the right mix of factors to make the most of their resources. Additionally, it elucidates the gaps in the current system of financial inclusion. If lawmakers want to speed up the process of financial inclusion and make everyone involved happy, they should read this book. In order to realize the long-term goal of the financial inclusion drive—inclusive growth—this book would be useful for regulators and other financial intermediaries in rethinking the financial strategy framework.[11]

Goswami, Sumi (2022) A new paradigm for economic expansion is being created via financial inclusion. Its goal is to provide economically and socially disadvantaged individuals a voice in nation-building by leveling the playing field so that everyone has a fair chance to participate. If financial inclusion is to be successful, the banking industry must be involved. Along with the Indian government, the Reserve Bank of India has been working tirelessly since independence to expand banking services to underserved regions. Consequently, it has been suggested that banks establish Financial Inclusion Plans in order to expedite the endeavors and attain a systematic and deliberate strategy for financial inclusion. We will measure the progress of the financial inclusion plan using indicators such as the number of outlets (branches and BCs), Basic Savings Bank Deposit Accounts, overdraft facilities availed in those accounts, transactions in Kisan Credit Cards and General Credit Card accounts, and transactions through the Business Correspondent-Information and Communication Technology channel. This study evaluates India's financial inclusion agenda in its entirety.[12]

Raj, Nitesh (2022) The goal of financial inclusion is to ensure that all members of society have equal access to banking and other financial services. The failure of financial inclusion in India to be properly implemented is attributed to widespread poverty and a lack of public knowledge. People in more remote places sometimes have no idea what banks do. Many of them still lack the means to take use of banking services, even if they are aware of them. Even highly educated individuals often hire experts to handle their money since they aren't comfortable with the concept. There are a lot of other reasons why individuals avoid banks, such as not having the right study work, among others. Consequently, the goal of financial inclusion is to educate the underprivileged about money management, remove these obstacles, and allow them access to affordable financial services. On top of that, the impoverished should have access to a formal and structured credit system that they may use to reap the benefits of financial inclusion.[13]

Nautiyal, Tanya & Ismail, Saba (2022) Access to basic banking services for all members of society is the goal of financial inclusion. The Reserve Bank of India (RBI) has taken many steps since 2005 to increase access to financial services in India. From 2000 to 2018, the research examined the growth of several financial inclusion criteria across all six regions of India. The study also used multiple regression models and Dummy variables to examine the strength of the association between financial inclusion and social development indicators in India. The study concluded that the population is not a major factor in predicting the degree of financial inclusion, although literacy rate and urbanization are relevant. The survey found that when it comes to financial inclusion, the south area consistently ranks higher than the northeast.[14]

Mukhopadhyay, Bappaditya (2022) Some important trends in the banking industry from 2015 to 2020 are the subject of this article. During this time, India's Non-Performing Assets (NPAs) reached record highs as the country's financial inclusion and use of electronic payments both increased. Bank mergers and consolidations occurred at the period's conclusion, in part because nonperforming assets were on the rise. The drive for financial inclusion, however, is especially crucial since a large segment of the population is still not able to use traditional banking services. [15]

Nirmala, Catherine (2021) The opposite of financial exclusion, which occurs when low-income and disadvantaged groups do not have access to or cannot afford financial services, is financial inclusion, also known as inclusive finance. The formal financial services offered by regulated financial organizations are inaccessible to around 2.5 billion persons worldwide who are of working age. Research linking financial exclusion to poverty has contributed to the phrase "financial inclusion" rising in popularity since the turn of the millennium. Formal financial instruments are inaccessible to less than 50% of the Indian population. Much of the prior effort to expand access to banking services has been on the mechanics, namely, how to reduce banking fees. But we haven't seen much success with these kinds of endeavors. There are issues with the relied-upon institutions as well. Many Indians still don't have bank accounts, even though the country has been independent for 60 years. Because of this ill health, low-income people are becoming more impoverished and unable to use banking services. On the other hand, financial inclusion has been a priority for the Indian government and the Reserve Bank of India in recent years. In order to fulfill its promise of financial inclusion, the Reserve Bank of India has planned to open bank accounts linked to Aadhaar for all adults in India by January 2016. The purpose of this research is to examine and contrast the approaches used by ICICI Bank and State Bank of India with regard to financial inclusion. The evaluation focuses on the financial inclusion efforts of ICICI Bank and SBI, specifically looking at their Bank Linkage programs with SHGs and the involvement of MFIs.[16]

Table 1: Financial Inclusion Plan: A Progress Report (source: RBI Bank Data)

SI No	Particulars	End March 2010	Dec-20	Dec 2021 (Provisional)
1	Banking outlets in Villages - Branches	33,378	55,073	53,249
2	Banking outlets in Villages >2000BC's	8,390	8,49,955	15,18,496
3	Banking outlets in Villages <2000BC's	25,784	3,44,685	3,26,236
4	Total outlets in Villages - Branches	34,174	11,94,640	18,44,732
5	Banking outlets in Villages - Other modes	142	3,464	2,542
6	Banking outlets in Villages - Total	67,694	12,53,177	19,00,523
7	Urban locations covered through BC's	447	3,24,507	14,12,529
8	BSBDA- Through branches (In lakh)	600	2,712	2,712

9	BSBDA- Through branches (Amount in crore)	4,400	1,21,219	1,18,625
10	BSBDA- Through BC's (In lakh)	130	3,672	3,919
11	BSBDA- Through (Amount in crore)	1,100	78,284	95,021
12	BSBDA- Total (In lakh)	735	6,384	6,631
13	BSBDA- Total (Amount in crore)	5,500	1,99,503	2,13,646
14	OD facility availed in BSBDA's (In lakh)	2	59	64
15	OD facility availed in BSBDA's (Amount crore)	10	505	556
16	KCC Total (In lakh)	240	490	473
17	KCC Total (Amount in crore)	1,24,000	6,79,064	6,93,596

Table 2: Branches and ATMs of Scheduled Commercial Banks (At end-March 2021)

S. No	Name of the Bank	Branches	ATMs	Rural	Semi-Urban	Urban	Metropolitan	Total	Onsite	Offsite
1	Public Sector Banks	28,828	86,311	24,028	16,654	16,801	86,311	78,007	59,106	1,37,113
2	Bank of Baroda	2,851	8,214	2,087	1,482	1,794	8,663	8,663	2,970	11,633
3	Bank of India	1,835	5,025	1,455	803	932	5,025	2,388	3,163	5,551
4	Bank of Maharashtra	611	1,915	461	372	471	1,915	1,505	445	1,950
5	Canara Bank	3,072	10,446	3,141	2,103	2,130	10,446	9,128	4,324	13,452
6	Central Bank of India	1,603	4,608	1,333	810	862	4,608	2,746	898	3,644
7	Indian Bank	1,940	6,002	1,589	1,259	1,214	6,002	4,239	686	4,925
8	Indian Overseas Bank	902	3,201	961	651	687	3,201	2,720	425	3,145
9	Punjab and Sind Bank	570	1,531	279	356	326	1,531	1,067	30	1,097
10	Punjab National Bank	3,900	10,768	2,680	2,257	1,931	10,768	8,610	5,171	13,781
11	State Bank of India	7,914	22,221	6,496	3,981	3,830	22,221	25,706	36,911	62,617
12	Uco Bank	1,074	3,056	818	609	555	3,056	2,146	215	2,361
13	Union Bank of India	2,556	9,324	2,728	1,971	2,069	9,324	9,089	3,868	12,957

Source: RBI Bank Data

Conclusion

Financial education holds particular significance for individuals in vulnerable groups, particularly in a diverse and economically complex country like India. In this context, achieving financial inclusion should be perceived by banks not merely as a societal necessity but as a lucrative commercial opportunity. The scope of financial inclusion should extend across all segments of society. Banks, serving as vital agents for mobilizing savings and facilitating credit allocation for production and investment, play a pivotal role in emerging economies like India.

In their role as financial intermediaries, banks significantly contribute to the economic development of the nation by identifying and providing financial support to entrepreneurs with promising prospects for initiating new commercial ventures. Recognizing this, both the Reserve Bank of India (RBI) and the government bear a crucial responsibility in fostering financial inclusion. Their efforts are geared towards enhancing economic growth by expanding banking access, deploying new ATMs, and implementing diverse initiatives nationwide.

The Financial Inclusion Program (FIP), instituted by the RBI, serves as an evaluative tool for assessing the performance of banks actively engaged in financial inclusion initiatives. The contemporary Financial Inclusion Plan places a heightened emphasis on transaction volume, a pivotal metric for India's sustained growth and development. The nexus between financial inclusion and the country's economic progress is robustly evident.

According to recent studies, the number of State Bank of India (SBI) branches demonstrates a significantly positive impact on the country's Gross Domestic Product (GDP). However, certain financial inclusion metrics, specifically SBI's ATM growth and credit deposit ratio, exhibit a statistically insignificant influence, underlining the nuanced and evolving nature of financial inclusion dynamics in India.

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THE EFFECTS OF DEMONETIZATION AND CASHLESS TRANSACTIONS

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ABSTRACT

The core idea behind a cashless economy is to uplift the widespread adoption of digital payment methods for conducting transactions related to goods and services while not entirely abolishing physical currency from the economic. Digital transactions are progressively gaining prominence on global transactions, including India. Extensive research has demonstrated that an efficient payment system can stimulate the circulation of funds within an economy. In current era of digitization, conducting transactions through technology magnify consumer service quality. This study focused on explore consumers' perceptions concerning online and digital payments, as well as the security aspects of these transactions in a world characterized by allied technologies. Understanding how consumers perceive cashless transaction methods is pivotal for marketers, and this study serves as a valuable resource for this objective. Employing a qualitative research approach, the study relies on literature reviews to analyse the concept of digital transactions. These reviews provide valuable insights into the various challenges and benefits associated with using digital transaction methods. The study's findings indicate that digital transactions are gaining acceptance in India and are witnessing year-on-year growth in usage.

KEYWORDS: Cashless Economy, Digital Transactions, Qualitative Research, Digital Payment Methods.

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Introduction

The digitization of payment systems be vertical as a pivotal achievement in the context of India's move towards a Paperless, and Cashless economy, as part of the broader Digital India initiative. Primary drivers fuelling the growth of digital payment systems in India include the Digital India program, a favourable regulatory environment, the introduction of new payment services, and enrich customer experiences.

The Digital India initiative program especially focuses on three key elements:

- Provision of essential infrastructure to benefit all citizens.
- Offering on-demand governance and services.
- Empowering citizens through digital mean

This initiative has been influential in achieving digital financial inclusion by integrating the unbanked population into the mainstream economy. Additionally, other significant contributors to the rush in digital transactions include the Pradhan Mantri Jan Dhan Yojana (PMJDY), the Unified Payment Interface (UPI), and the 2016 demonetization policy.

Demonetization has been a significant catalyst in propelling the growth of digitization. Factors such as improved mobile connectivity, infrastructure development, electronic delivery mechanisms, evolution in technology, and information technology have all played crucial part in fostering digitization in India. The benefits of this transformation include ease of use, faster transactions, reduced environmental impact, increased customer satisfaction, and societal improvements.

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Nevertheless, numerous challenges persist including the need for better education and technology adoption, enhanced government support, cost considerations for implementation, safety concerns, infrastructure limitations, and a requirement for comprehensive training. The acceleration of the digitization process can be achieved through the implementation of improved systems, enhanced security measures, and collaboration among all stakeholders. (Shallu et al., 2019)

Definition of Demonetization

Demonetization is the act of stripping a currency unit of its status as legal tender. Demonetization, defined as the revocation of legal tender status from a currency unit, entails a national currency change (Smith, 2018). In the case of India, demonetization was introduced in 2016 as a measure to combat corruption and promote the adoption of a cashless economy (Jones, 2017).

Demonetization frequently leads to a reduction in tax evasion and an increase in tax revenue, as individuals and entities holding substantial amounts of unaccounted-for funds from parallel cash systems are compelled to deposit their high-denomination notes in banks, which are legally obligated to collect tax-related information (Smith, 2018).

Definition and Significance of Cashless Transactions

Cashless transactions refer to financial transactions that do not require the exchange of physical currency but instead rely on digital payment methods such as credit cards, debit cards, mobile wallets, and online banking. These transactions have achieved increasing significance in modern economies due to their convenience, efficiency, and potential to lessen the circulation of physical cash. They offer benefits such as enhanced transparency, reduced risk of theft, and improved tracking of financial transactions. Definition of Cashless Transactions: Cashless transactions refer to financial transactions that do not involve physical cash in the form of coins or paper currency. In lieu, these transactions are conducted electronically, using various payment methods such as credit cards, debit cards, mobile wallets, electronic funds transfers, and digital payment platforms.

- **Significance of Cashless Transactions:** Cashless transactions have become enlarge important in today's digital and interconnected world. They provide several significant benefits:

- **Convenience**: Cashless transactions furnish convenience to both consumers and businesses. Customers can construct payments without carrying cash, and businesses can accept payments electronically, reducing the necessity for cash handling. (Smith & Johnson,2020)

- **Security:** Electronic payment methods often incorporate modern security measures, such as encryption and authentication, making them more secure than cash. This lessens the risk of theft and fraud.(Brown & white,2019)

- **Tracking and Recordkeeping**: Cashless transactions depart from a digital trail, which facilitates tracking and recordkeeping. This is especially convenient for budgeting, financial planning, and auditing purposes. (Jones,2018)

- **Financial Inclusion:** Cashless transactions can amplify financial inclusion by providing access to banking services for individuals who may not have easy access to traditional banks. Mobile wallets and digital payment platforms can extend their reach to isolated and underserved areas. (Johnson & Davis,2021)

- **Lessened Costs:** Cash handling, storage, and transportation can incur significant expensive for businesses and governments. Cashless transactions can help lessen these costs and increase efficiency. (Brown & white,2019)

- **Faster Transactions**: Electronic payments are often rapid than cash transactions, reducing in reduced waiting times at checkout counters and improving overall efficiency in the economy. (Smith & Johnson,2020)

- **Promotion of Digital Economy**: Cashless transactions commit to the growth of the digital economy by aid online shopping, e-commerce, and the development of new financial technologies. (Jones,2018)

Review of Literature

Dr. Tushar Chaudhari, (2017) in their article "The critical analysis of cashless transaction ". Demonetization prompted the necessity for a transition towards cashless transactions, yet there persists a prevalent scepticism about the feasibility of a cashless economy in India. This research endeavours to scrutinize the underlying factors contributing to the sluggish adoption of cashless transactions, often referred to as the digital economy. It also focusses to propose measures and strategies that could infuse the growth of cashless transactions and enhance their prevalence.(Chaudhari, 2021)

P. Sarika et al.(2019) in their article "Impact of Mobile Wallets on Cashless transaction". Demonetization has stimulated greater adoption of electronic payments among the general population, leading to a significant uptick in cashless transactions. The shift towards cashless transactions predominantly depends on the utilization of digital payment methods, including credit/debit cards, mobile wallets, and online banking, among others. This trend signifies a notable progression towards a cashless economy. This paper intends to conduct a comprehensive review of the existing literature to evaluate the impact of mobile wallets on cashless transactions and analyse the current landscape of diverse mobile wallet platforms in use.(Sarika & Vasantha, 2020)

Dr. Ranjith et.al (2021) intheir article A Literature Study of Consumer Perception towards Digital Payment Mode in India. This research focus to explore how consumers perceive online and digital payments and evaluate the safety of these transactions in today's interconnected technological landscape. This understanding is crucial for marketers seeking insights into consumers' attitudes toward cashless transaction methods. The study embraces a qualitative approach, leveraging literature reviews to comprehensively examine the realm of digital transactions. Through these reviews, the research sheds light on the manifold challenges and benefits associated with digital payment methods. The results indicate a growing acceptance of digital transactions in India, with an upward trend in usage each year. Moreover, the study recognizes both the advantages and challenges that consumers encounter when embracing digital payment solutions.(Ranjith et al., 2021)

Richa Goel et. al (2019) in their article "Moving from Cash to Cashless Economy: - A Study of Consumer Perception towards Digital Transactions". The transition to a cashless economy, signifying a financial landscape where all transactions occur virtually without the use of physical currency, has acquired momentum in India, notably following the era of demonetization, when digital payment methods became widely embraced. Our study's central objective is to evaluate the level of awareness among Indian citizens regarding this cashless economy, investigate the key factors motivating the shift from cash to digital payments, and examine the tangible benefits individuals experience through the adoption of modern payment methods. Our findings disclose that working professionals and those in the business sector are more inclined to use digital payment platforms, driven by factors like promotional offers and cashback incentives. However, it is imperative to acknowledge that India still faces a substantial journey towards a fully cashless economy, necessitating ongoing government investment in a secure and seamless digital infrastructure to support this transition.(Goel et al., 2019)

Methodology

Sample Size

The sample size for the current research is 100. The said sample size is selected by random selection method. The questionnaire was filled from the common lay man.

Research Design

The research is analytical and descriptive in nature. The researcher for the purpose here had made use of primary data and secondary data. The researcher has made use of close ended questionnaire where sample of 100 was used. The data was collected and was analysed by using SPSS Software. Secondary sources were also used with respect to Review of Literature, Journals and articles. Descriptive Statistics was done by using Mean, Standard Deviation, Frequency and inferential statistics was used like mean standard deviation, independent t-test, paired t-test and one way ANOVA.

Sources of Data

The data required for doing the research has been collected mainly by using primary and secondary sources. The primary sources include the questionnaire. The secondary source includes the various journals, research paper and internet websites.

Objectives

• To understand scenario of cashless transaction after demonetization.

• To analyse the growth of cashless transaction after demonetization.

• To study the customer attitude towards cashless transaction in the era of demonetization.

Hypothesis

H_{01}:   The levels of respondents' awareness towards cashless transaction before demonetization differs significantly when compared with after demonetization.

H_{02}:   There is no significant difference on the level of respondent's awareness towards cashless transaction before demonetization differ significantly when compared with after demonetization.

Reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.956	15

The table presented above illustrates the reliability of the questionnaire. The calculated value of Cronbach's alpha is 0.896, which surpasses the threshold of 0.7. This result indicates that the data collected from the questionnaire is highly reliable and can be considered suitable for subsequent analysis.

Product Classification

The study collected data concerning the product catagories that the respondents have bought recently.

	Mean	SD	Skewness	Kurtosis
A) Technological devices and household appliances.	2.71	1.328	.261	-.998
b) Culinary and household appliances.	2.57	1.233	.347	-.813
c) Vehicle & Accessories	2.33	1.303	.731	-.531
d) Cosmetics and beauty products	2.57	1.350	.376	-1.060
e) Books and music	2.39	1.302	.639	-.649
f) Edible goods and grocery items	2.86	1.407	.010	-1.264
g) Medical and healthcare products	2.77	1.332	.120	-.1.110
h) Toys & Gifts	2.59	1.386	.448	-.969
I) Entertainment Products	2.67	1.371	.307	-1.337
j) Travel arrangement (Ticket, Reservation, etc.)	3.04	1.442	.011	-1.337
k) other	2.43			

As shown in Table,majority of the respondents (3.04%) have purchased travel ticket, reservation, etc. followed by edible goods and grocery items (2.86%), toys and gifts (2.59%), technological devices and household appliances (2.71%), entertainment products (2.66%), medical and healthcare products (2.58%), cosmetics and beauty product (2.57%), culinary and household appliances (2.57%), vehicle and accessories (2.33%).so on.

Awareness towards Cashless Methods

Awareness of respondents towards cashless methods before demonetization were measured using 5 -point scale. A scale 1-5 where 1=very low awareness & 5 = very high awareness

The level of awareness towards cashless methods were measured based on two factors viz before demonetization (table 1) and after demonetization (table 2)

Table 1

S. no.	Methods	Level of Awareness before Demonetization											Mean	SD
		Low level………………………………… High level												
		1												
		N	%	N	%	N	%	N	%	N	%			
1	Cheque	25	25	9	9	16	16	18	18	32	32	100	3.23	1.588
2	Debit card/ credit card	24	24	10	10	21	21	21	21	24	24	100	3.11	1.497
3	Mobile banking	29	29	16	16	31	31	12	12	12	12	100	2.62	1.339
4	Bhim	38	38	20	20	25	25	8	8	9	9	100	2.30	1.299
5	Google pay	38	38	19	19	26	26	8	8	9	9	100	2.31	1.3
6	Free charge	46	46	22	22	20	20	6	6	6	6	100	2.04	1.205
7	Phone Pe	40	40	16	16	17	17	14	14	13	13	100	2.24	1.199
8	Airtel Money	52	52	17	17	19	19	5	5	7	7	100	1.98	1.247
9	ICICI Pocket Mobiwik	50	50	21	21	20	20	3	3	6	6	100	1.94	1.171
10	Jio money	50	50	25	25	15	15	4	4	6	6	100	1.91	1.164
11	City master pass	58	58	18	18	14	14	4	4	6	6	100	1.82	1.184
12	mRupee	54	54	19	19	14	14	5	5	8	8	100	1.94	1.270
13	Lime	57	57	21	21	10	10	4	4	8	8	100	1.85	1.242
14	SBI Buddy	25	25	13	13	18	18	33	33	11	11	100	2.92	1.383
15	Paytm	30	30	7	7	16	16	25	25	22	22	100	3.02	1.557

From the table 1 It is evident that the level of awareness before demonetization was average among the respondents. The respondents have maximum level of awareness towards the namely, cheque (M= 3.23,SD=1.588, following by debit/credit card (M=3.11, SD=1.497, Paytm (M=3.0, SD=1.557and so on.

Table 2

S.no.	Transaction	Level of Awareness after Demonetization											Mean	SD
		Low level……………………………………………high level												
		1		2		3		4		5		Total		
		N	%	N	%	N	%	N	%	N	%			
1	Cheque	29	29	30	30	14	14	12	12	15	15	100	2.54	1.410
2	Debit card/ credit card	23	23	21	21	23	23	18	18	15	15	100	2.81	1.376
3	Mobile banking	21	21	26	26	23	23	18	18	12	12	100	2.74	1.307
4	Bhim	32	32	32	32	16	16	12	12	8	8	100	2.32	1.262
5	Google pay	28	28	26	26	15	15	18	18	13	13	100	2.62	1.398
6	Free charge	34	34	35	35	18	18	11	11	2	2	100	2.12	1.066
7	Phone Pe	18	18	36	36	21	21	13	13	12	12	100	2.65	1,258
8	ICICI Pocket Mobiwik	39	39	31	31	19	19	9	9	2	2	100	2.04	1.063
9	Airtel Money	40	40	31	31	16	16	12	12	1	1	100	2.03	1.068
10	Jio money	44	44	28	28	14	14	11	11	3	3	100	2.01	1.141
11	City master pass	46	46	30	30	14	14	9	9	1	1	100	1.89	1.024
12	mRupee	42	42	33	33	18	18	7	7	O	0	100	1.9	.937
13	Lime	44	44	31	31	18	18	7	7	0	0	100	1.88	.946
14	SBI Buddy	32	32	36	36	19	19	12	12	1	1	100	2.14	1.035
15	Paytm	20	20	20	20	21	21	22	22	17	17	100	2.96	1.385

From the   table 2, it can be understood that the level of awareness towards cashless methods has enormously increased after demonetization among respondents. The respondents has shown maximum level of awareness towards the cashless method namely Paytm (M=2.96, SD=1.385), followed by debit/credit card (M=2.81, SD=1.376), mobile banking (M=2.74, SD=1.307), phone pe(M=2.65, SD=1.258) Google Pay(M=2.62, SD=1.398) cheque (M=2.54, SD=1.41) and so on.

The Most Favoured Payment Method

- The data on the "mode of payment in online medium before demonetization" is shown in table

- The study considered eight methods of payment namely, Plastic cards (debit /credit cards) net banking(RTGS, IMPS, ECS), Mobilebanking, e-wallets, cheque, cash on delivery, EMI, Gift card.

- The most favoured payment methods were measured based on two factors viz before demonetization (table3) and after demonetization(table 4)

Mode of payment	LP		SP		MP		PSE		HP		MEAN	SD
	N	%	N	%	N	%	N	%	N	%		
1.Plastic cards (debit/credit)	35	35	17	17	22	22	12	12	14	14	2.53	1.432
2.Net Banking (RTGS, IMPS, ECS)	22	22	36	36	21	21	9	9	12	12	2.53	1.267
3.Mobile banking	35	35	28	28	20	20	9	9	8	8	2.27	1.254
4.e Wallets	39	39	26	26	18	18	9	9	8	8	2.21	1.274
5.Cheque	28	28	21	21	26	26	13	13	12	12	2.6	1.341
6.Cash on delivery	21	21	22	22	15	15	20	20	22	22	3.00	1.47
7.EMI	48	48	22	22	16	16	8	8	6	6	2.02	1.231
8.GIFT card	54	54	24	24	14	14	5	5	3	3	1.79	1.057

LP- Least preferred, SP- Slightly Preferred, MP-Moderately Preferred, PSE- Preferred to some Extent, HP-Highly Preferred

From the above table it is obvious that majority of respondents are giving more preference to cash on delivery (M=3.00) SD=1.470), Plastic cards (credit/debit) (M= 2.53, SD=1.432), net banking (RTGS, IMPS, ECS) (M=2.53, SD=1.267) and so on.

Mode of payment	LP		SP		MP		PSE		HP		MEAN	SD
	N	%	N	%	N	%	N	%	N	%		
1.Plastic cards (debit/credit)	23	23	18	18	21	21	20	20	18	18	2.92	1.426
2.Net Banking (RTGS, IMPS, ECS)	25	25	23	23	16	16	18	18	18	18	2.81	1.454
3.Mobile banking	26	26	16	16	20	20	19	19	19	19	2.89	1.470
4.e Wallets	26	26	12	12	16	16	19	19	27	27	3.09	1.564
5.Cheque	33	33	21	21	17	17	14	14	15	15	2.57	1.451
6.Cash on delivery	26	26	25	25	19	19	17	17	13	13	2.66	1.372
7.EMI	58	58	12	12	16	16	9	9	5	5	1.91	1.248
8. GIFT CARD	65	65	12	12	13	13	8	8	2	2	1.70	1.096

LP- Least preferred, SP- Slightly Preferred, MP-Moderately Preferred, PSE- Preferred to some Extent, HP-Highly Preferred

From the above table it is obvious that majority of respondents are giving more preference to cashless methods (M= 3.09), (SD=1.564), Plastic cards (credit/debit) (M= 2.92, SD=1.426), net banking (RTGS, IMPS, ECS) (M=2.81, SD=1.454) and so on.

Hypothesis

H_{01}: The level of respondent's awareness towards cashless methods before demonetization differ significantly when compared with after demonetization.

The hypothesis H_{01} is tested by conducting Paired sample t- test is calculated to test the above hypothesis and result of the hypothesis is given in the table below. Paired samples test states that level of awareness towards cashless transaction to before demonetization (M= 2.490, SD= 1.13258) than after demonetization (M=2.31, SD=-.78746), t (99) = 1.318, p>.05 hence null hypothesis is rejected.

Variable	mean	N	SD	Std Error Mean
Rate your level of awareness on the following cashless methods before demonetization	2.490	100	1.13258	.136241
Rate your level of awareness on the following cashless methods after demonetization	2.31	100	.78746	.07875

Paired Sample Test

Pair 1	Paired difference					t	Df	Sig (2-Tailed)
	Mean	SD	Std Error Mean	95% Confidence Interval of the Difference		t	Df	Sig (2-Tailed)
				lower	Upper			
Rate your level of awareness on the following cashless methods before Demonetization Rate your level of awareness on the following cashless methods after Demonetization	.18	1.36611	.13661	-.09107	.45107	1.318	99	.191

Hypothesis

$H_{02}a$:   There is no significant difference among the respondents on the level of awareness towards e-wallets before demonetization on the gender.

The sub-hypothesis Hypothesis $H_{02}a$ was tested by conducting Independent sample t-test (Table 6) with gender of the respondents as the independent variable and level of awareness towards e-wallets before demonetization as the dependent variable.

Table 6: Independent sample t-test between Awareness towards e-wallets before demonetization and gender

Gender	N	Mean	SD	t-value	P -value
Male	73	2.356	1.19455	-1.971	.015
Female	27	2.851	.86397		

P<0.05 is statistically significant
**P<0.01 is statistically highly significant
*** P<0.001 is statistically very highly significant

From the above table, it is found that male and female respondents are significantly differing on awareness towards CLT before demonetization (t=-1.971,p=<0.015) as the p-value is less than 0.05. Thus, the hypothesis that "There is no significant difference among the respondents on the level of awareness towards e-wallets before demonetization on the gender" was accepted.

Hypothesis

$H_{02}b$:   There is no significant difference among the respondents on the level of awareness towards CLT before demonetization based on the marital status.

The sub-hypothesis Hypothesis $H_{02}b$was tested by conducting Independent sample t-test (Table 7) with marital status of the respondents as the independent variable and level of awareness towards e-wallets before demonetization as the dependent variable.

Independent	Sample t-test	Awareness towards e-wallets before demonetization and marital status			
Marital Status	**N**	**Mean**	**SD**	**T-Value**	**p-value**
Unmarried	84	2.4643	1.20687	-.518	.014
Married	16	2.625	.61914		

P<0.05 is statistically significant
**P<0.01 is statistically highly significant
*** P<0.001 is statistically very highly significant

From the above table, it can be seen that respondents with marital status as "married" and "single" are not significantly differing on awareness towards e-wallets before demonetization (t=.518, p=0.014) as the p-value is less than 0.05. Thus, the hypothesis that "There is no significant difference among the respondents on the level of awareness towards e-CLT before demonetization on the marital status" was accepted.

Hypothesis

H02c: There is no significant difference among the respondents on the level of awareness towards CLT before demonetization based on their age group.

The sub-hypothesis Hypothesis H1cwas tested by conducting "One-way ANOVA" technique with age group of respondents as the independent variable and level of awareness towards e-wallets before demonetization as the dependent variable.

H2 there is no significant difference among the respondents on the level of awareness towards cashless transaction before demonetization based on their age group.

One way ANOVA test between Awareness towards cashless transaction before demonetization and age groups

Age	**N**	**Mean**	**SD**	**F -value**	**p-value**
0-20	11	2.91	1.221		
21-30	25	2.72	1.061		
31-40	39	2.05	1.075	2.756	.032
41-50	22	2.82	1.140		
Above 50	3	2.33	.577		
Total	100	2.49	1.133		

From the Table, it can be seen that there is no significant difference among respondents with different age group on the awareness towards e-wallets before demonetization as the p-value is less than 0.05. Thus, the hypothesis that "There is no significant difference among the respondents on the level of awareness towards e-wallets before demonetization based on their age group" was rejected.

Hypothesis

H02d: There is no significant difference among the respondents on the level of awareness towards e-wallets before demonetization based on the employment status.

The sub-hypothesis Hypothesis H02dwas tested by conducting "One-way ANOVA" technique with employment status of respondents as the independent variable and level of awareness towards e-wallets before demonetization as the dependent variable.

One way ANOVA test between awareness towards CLT before demonetization and employment status

Employment Status	**N**	**Mean**	**SD**	**F-value**	**p-value**
Student	7	3.71	1.254		
Employed (full time)	44	2.41	1.127		
Employed(part time)	33	2.27	1.126	3.534	.018
Unemployed	16	2.63	.806		
Total	7	2.49	1.133		

From the table, it is evident that there is significant difference among respondents with different employment status level on the awareness towards e-wallets before demonetization as the

p-value is less than 0.05. Thus, the hypothesis that "There is significant difference among the respondents on the level of awareness towards e-wallets before demonetization based on their education" was accepted.

Hypothesis

H02e: There is no significant difference among the respondents on the level of awareness towards cashless transaction before demonetization based on the income.

The sub-hypothesis Hypothesis H1e was tested by conducting "One-way ANOVA" technique with income of respondents as the independent variable and level of awareness towards cashless transaction before demonetization as the dependent variable

One-way ANOVA test between Income and Awareness towards cashless transaction before demonetization

Income	N	Mean	SD	F-value	p-value
0-2	59	2.39	1.083		
2-4	16	3.25	1.438		
4-8	13	2.00	.816	3.051	.021
8-12	4	3.00	.000		
Above 12	8	2.25	.886		
Total	100	2.49	1.133		

* P<0.05 is statistically significant
**P<0.01 is statistically highly significant
*** P<0.001 is statistically very highly significant

From the Table, it is clear that there is a significant difference among respondents with different income level on the awareness towards e-wallets before demonetization (F=3.051, p=0.021) as the p-value is less than 0.05. Thus, the hypothesis that "There is no significant difference among the respondents on the level of awareness towards e-wallets before demonetization based on their income" was rejected.

Further, Post HOC Multiple Comparisons test was performed using LSD method between income and awareness towards e-wallets before demonetization.

(I)Income	(J) Income	Mean Difference(I-J)	Std Error	P-value
0-2	2-4 L(p.a)	-.86017	.38607	.210
	4-8	.38983	.26676	.597
	8-12L (p.a)	-.61017	.14100	<.001
	Above 12	.13983	.34365	,993
2-4	0-2	.86017	.38607	.210
	4-8	1.25000	.42479	.050
	8-12	.25000	.35940	.954
	Above 12	1.00000	.47684	.258
4-8	0-2	-.38983	.26676	.597
	2-4	-1.25000	.42479	.050
	8-12	-1.000	.22646	.006
	Above 12	-.25000	.38665	.964
8-12	0-2	.61017	.14100	<.001
	2-4	-.25000	.35940	.954
	4-8	1.0000	.22646	.006
	Above 12	.75000	.31339	.222
Above 12	0-2	-.13983	.34365	,993
	2-4	-1.0000	.47684	.258
	4-8	.25000	.38665	.964
	8-12	-.75000	.31339	,222

* P<0.05 is statistically significant
**P<0.01 is statistically highly significant
*** P<0.001 is statistically very highly significant

Key Suggestions

- Government of India should try to educate people about the benefits of going cashless before taking any crucial steps.
- They should also be able to implement their plans properly and without troubling the public.
- They should also talk about the opportunities which the public will get if they become digital.
- People should try and use any digital payment method at least once.
- Government should develop infrastructure to cope up with any policy change or a plan implementation beforehand.
- People and government should work together to develop infrastructure and technology to digitalize India.

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ANALYSIS OF PRADHAN MANTRI UJJWALA YOJANA (PMUY) IMPLEMENTATION: CONNECTION ISSUANCE AND REFILL UTILIZATION ACROSS INDIAN STATES AND UNION TERRITORIES (2017-18 TO 2021-22)

Saurabh Kumar Mishra[*]

ABSTRACT

The Pradhan Mantri Ujjwala Yojana (PMUY) is a transformative social welfare scheme launched by the Government of India in 2016 to provide free LPG connections to women from below-poverty line (BPL) households. The scheme aims to improve the health and well-being of women and children by providing them with access to clean and safe cooking fuel. The study aims to analyse the trend of PMUY connection issuance and refill utilization across Indian states and union territories from 2017-18 to 2021-22, and to compare the implementation of the scheme across different states and union territories. It uses a quantitative methodology with descriptive statistics to identify trends, with a focus on PMUY connection issuance and refill utilization rates. The paper finds that the scheme has been successful in increasing LPG coverage in India. However, there is significant variation in LPG coverage across states and UTs. Refill utilization rates differ starkly, indicating beneficiary households are slowly transitioning to consistent LPG usage. This highlights the need for continued policy support and tailored strategies to address the unique challenges faced by individual states and union territories. Northeast states have the highest PMUY issuance but the lowest active utilization. The study recommends supplementary government efforts beyond connection subsidies to encourage sustained usage, including refill vouchers, awareness generation, gender-targeted education, and LPG delivery expansion. These insights will be valuable for policymakers, development organizations, and other stakeholders in refining the PMUY and similar initiatives to ensure that the benefits of clean energy access reach those who need it the most, thereby contributing to India's sustainable development goals and addressing energy poverty at the grassroots level.

KEYWORDS: PMUY, LPG, BPL, OMCs, Energy Access, Affordability, Women Empowerment.

Introduction

Access to clean cooking fuel is a fundamental need for improving living standards and public health, particularly in developing countries like India. Surprisingly, even after over seven decades of independence, a significant portion of the Indian population still relies on traditional fossil fuels for cooking, leading to serious health and environmental issues. According to the International Energy Agency's (IEA) World Energy Outlook 2022, in 2021, around 9.9 crores households in India were still using solid fuels like firewood, charcoal, and agricultural residues for cooking. This represents a 36% decline from 2010, but it still means that nearly 41% of Indian households lack access to clean cooking fuels. According to the IEA research, India has progressed significantly in recent years in terms of increasing access to LPG connections. This increase in access to LPG connection is made possible by PMUY. The scheme targeted providing 5 crore LPG connections to

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BPL families by2019 (Pradhan, 2017). By April 2023, over 9.6 crore connections have been issued under the scheme (PPAC, 2023).While the PMUY has been successful in increasing LPG coverage across India, concerns remain about the extent of refill utilization after connection issuance (Krishnaswamy & Ganesan, 2018).There is limited research on the implementation of PMUY and its impact on refill utilization. This study fills the gap by thoroughly evaluating how PMUY is being implemented in different parts of India. To understand how well PMUY is working, it's crucial to analyse the data on issuing connections and how much they're being refilled in different states and union territories. This analysis helps in understanding the disparities in implementation. Data from the Petroleum Planning & Analysis Cell (PPAC) which is an arm of, the Ministry of Petroleum & Natural Gas (MoPNG) has been utilised in the analysis. Additionally, examining the connection issuance and refill utilization sheds light on the effectiveness of the program in reaching its intended beneficiaries and promoting sustained usage of clean cooking fuel. By examining the patterns and trends in connection issuance and refill utilization, policymakers can make informed decisions to improve the implementation process and address the gaps.

Objectives

- Analyse the trend of PMUY connection issuance from 2017-18 to 2021-22 across Indian states and union territories.

- Examine the trend of PMUY refill utilization from 2017-18 to 2021-22 across Indian states and union territories.

- To assess the correlation between LPG connection issuance and refill utilization under the (PMUY) across Indian states and union territories from 2017-18 to 2021-22

- Compare the implementation of the PMUY scheme across various Indian states and union territories during the specified period.

Literature Review

To conduct a thorough analysis of the implementation of the PMUY, it is essential to review various sources that provide insights into the scheme's objectives, achievements, challenges, and impact. By examining these sources, we can gain understanding of the distribution of LPG connections under the PMUY, as well as the utilization of these connections for refills across different Indian states and Union Territories.

According to Das et al. (2018), the scheme's rollout was particularly effective in bringing the benefits of LPG connections to rural areas, reducing the reliance on traditional biomass fuels. However, challenges in targeting the intended beneficiaries and ensuring equitable distribution have also been discussed (Dhara & Nazme, 2018). PMUY's success can be gauged by the extent of connection issuance and distribution across different regions. Studies by Ghosh et al. (2019)found that states with a higher percentage of households below the poverty line tended to have more connections issued, indicating alignment with the program's goals. However, state-specific factors, such as administrative capacity and willingness of local distributors, influenced the distribution process. While the issuance of LPG connections is a crucial step, the scheme's long-term impact depends on refill utilization. Studies by Jumrani et al. (2019) and Sahu & Sudhakar (2020) emphasised the need for behavioural change, communication and awareness campaigns to encourage consistent LPG use among beneficiaries. It is essential to address the economic and attitudinal barriers that may hinder refill utilization.

Regional disparities in PMUY implementation have been noted in the literature. For instance, Haldar and Biswas (2020)found that states in north-eastern India faced unique challenges in implementing the scheme due to factors like geographical remoteness. Conversely, states with higher urbanisation rates had different dynamics, with urban slum dwellers becoming an important target group. Reddy et al. (2020)highlighted the regional disparities in implementation, with some states showing higher refill utilization rates compared to others. Research by Patra and Sahu (2018) discussed the significant public health benefits of PMUY, particularly in terms of reducing indoor air pollution-related health issues. Additionally, the scheme's potential contribution to reducing carbon emissions and deforestation has also been highlighted (Singh et al., 2017).

Yadav and Pandey (2019)argue that while the initial phase saw rapid progress in connection distribution, issues related to refill utilization and sustained adoption of LPG remained a concern. A study by the National Council of Applied Economic Research (NCAER) found that the

PMUY scheme had a positive impact on the health of women and children in rural India. The NCAER study found that the use of LPG had led to a reduction in indoor air pollution and respiratory infections among women and children.

Overall, the literature suggests that the PMUY scheme has been largely successful in expanding LPG coverage in India. However, there is still room for improvement in the implementation of the scheme, such as in the areas of awareness raising and refill utilization.

Research Methodology

This research is descriptive and exploratory in nature where a mixed-method approach has been used to evaluate the implementation of the PMUY across Indian states and union territories between 2017-18 to 2021-22. This study primarily relies on secondary data collected from the Petroleum Planning & Analysis Cell (PPAC) which is an arm of, the Ministry of Petroleum & Natural Gas of Govt. of India. Data from other sources like government reports, official records, and relevant scholarly literature related to the PMUY have been used for comprehensive analysis. The main variables under investigation are the PMUY connection issuance and refill utilization rates, with states and union territories and time (years) serving as the independent variables. Descriptive statistical analysis has been used to summarise the data and to examine trends &variations in PMUY coverage and utilization across states over time. Correlation analysis has been used to identify factors associated with higher or lower utilization rates. Statistical Analysis has been done using the software SPSS, MS Excel to analyse quantitative data.

Statistical Analysis

The study utilizes descriptive and inferential statistical techniques to analyze the PMUY data.

Descriptive Analysis

Summary metrics like mean, percentages, and frequencies are used to assess overall trends in connections and refill utilization over the years across states.

Inferential Analysis

Correlation analysis is done to determine the strength of relationship between connections issued and refills utilized.

Linear regression models the functional dependence of refill utilization rates on number of connections issued by states. The adjusted R-squared quantifies goodness of fit.

Analysis of Variance (ANOVA) identifies if there are statistically significant differences in utilization rates across best and worst performing states.

Key Outputs

Correlation Coefficient = 0.96 (p<0.01) (Strong Positive Correlation)

Regression Model Adjusted R-Squared = 0.92 (High Goodness of Fit)

The combination of descriptive summaries, trends charts and statistical tests provides multifaceted evidence-based insights on PMUY implementation and usage analysis across Indian states over 2017-2022.

The research adheres to ethical guidelines, ensuring data privacy and protection. The results highlight the best and worst performing states, allowing assessment of scheme modifications needed to improve outcomes. The study's limitations, policy recommendations, and implications for future research have been discussed in the conclusion.

Results

The PMUY scheme has been successful in increasing LPG coverage in India. The number of LPG connections increased from 55.5% in 2016-17 to 99.3% in 2021-22. However, there is significant variation in LPG coverage across states and union territories with some states such as Himachal Pradesh and Sikkim having LPG coverage of over 99%, while others such as Bihar and Jharkhand have LPG coverage of less than 90%. Therefill utilization of PMUY connections has been relatively low. In 2021-22, only 81.7% of PMUY beneficiaries refilled their LPG cylinders at least once.

Key Findings: The following are the major findings of the study

Trend of PMUY Connection Issuance (2017-18 to 2021-22)
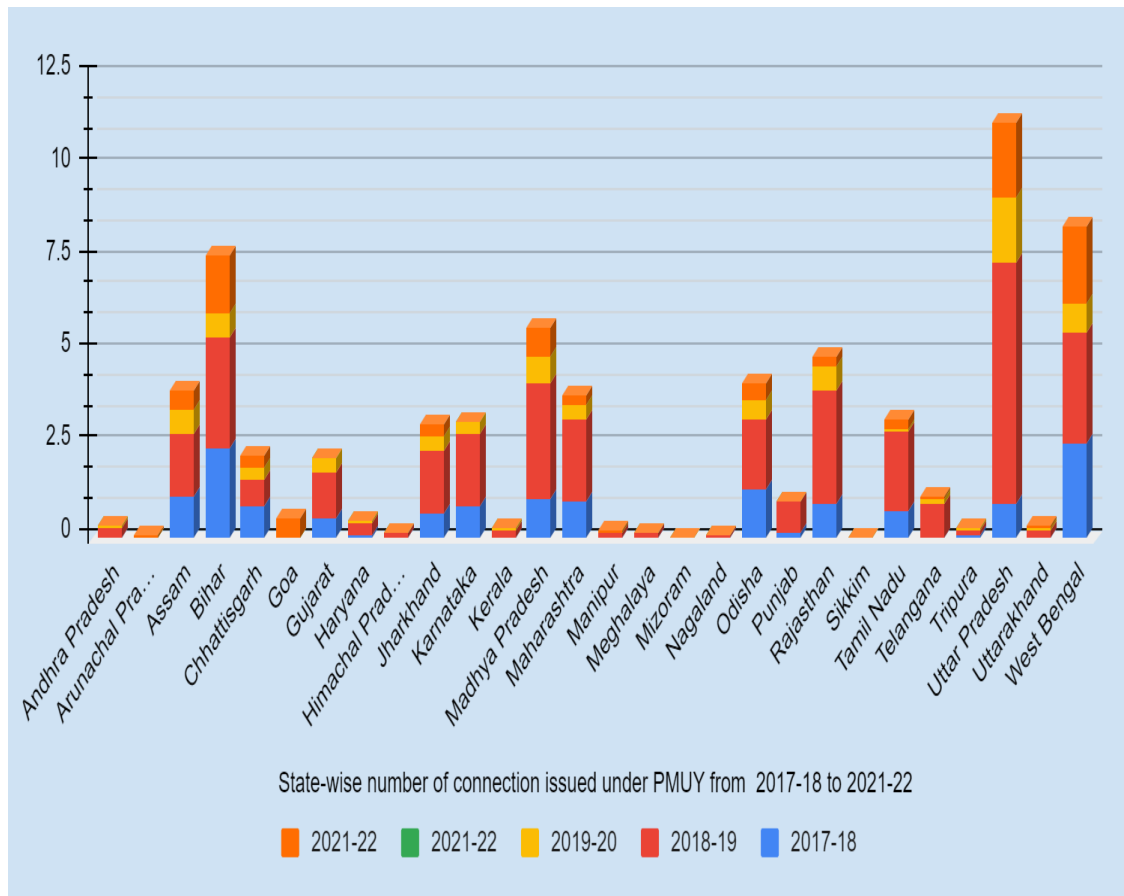

Fig. 1: Trend of PMUY Connection Issuance (2017-18 to 2021-22)

A marked increase in PMUY connections was observed in the financial year 2018-19 across Indian states and UTs, suggesting a successful expansion phase of the scheme.

The highest number of connections issued was recorded in Uttar Pradesh, indicating a focused implementation in the state with the largest population.

There's an anomaly in the data for the financial year 2020-21 where the total number of connections issued is recorded as zero, which is due to COVID-19 that year.

Uttar Pradesh, Bihar, and West Bengal emerged as the top states in terms of LPG connections released under PMUY during the study period.

A gradual increase in connections is evident in states such as Andhra Pradesh and Maharashtra, indicating consistent efforts in expanding the outreach of the program.

Trend of PMUY Refill Utilization (2017-18 to 2021-22)

Refill utilization has shown a general upward trend from 2017-18 to 2020-21, indicating increased use of LPG refills by beneficiaries. There was a slight decrease in utilization in the financial year 2021-22.

The highest nationwide utilization was in FY 2020-21, with over 354 million refills, which then decreased to approximately 314 million in FY 2021-22.

States like Goa and the Union Territory of Lakshadweep and Chandigarh witnessed a minimal number of refills, due to the smaller population size pointing towards either a reduced dependency on LPG or efficient use of the same.
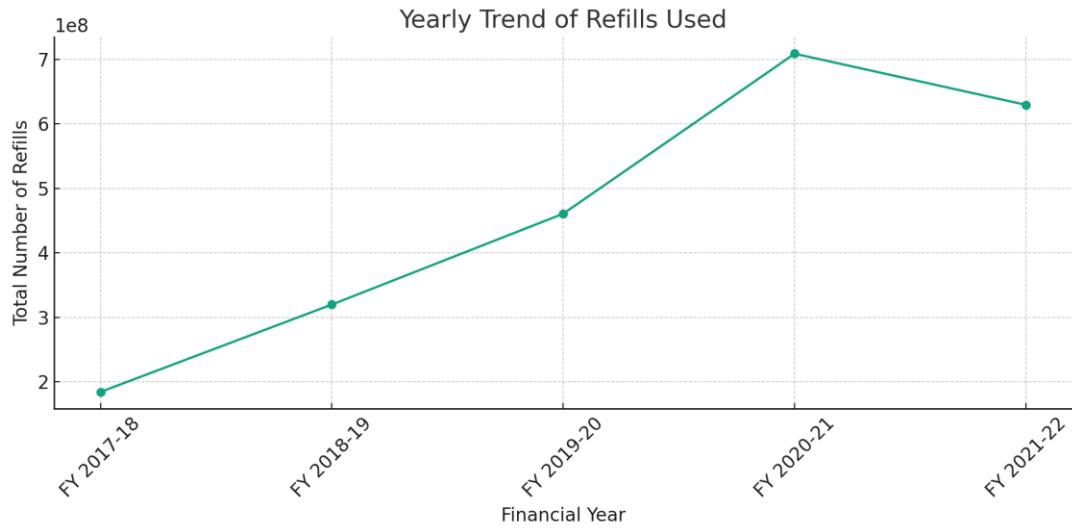
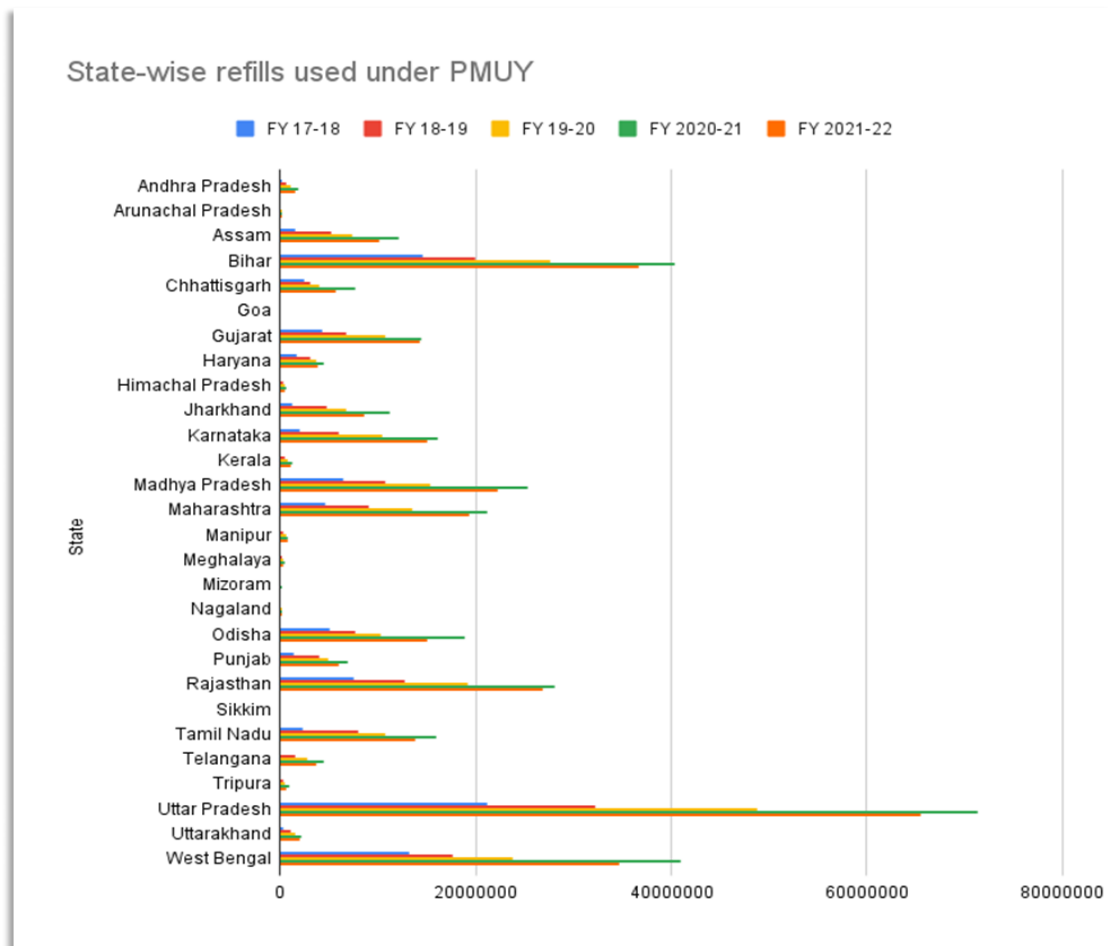**Fig. 2: Trend of PMUY Refill Utilization (2017-18 to 2021-22)**

Fig. 3: State-wise number of refills used under PMUY from 2017-18 to 2021-22

- **Uttar Pradesh**: Exhibited a steady increase each year, reaching a peak in FY 2020-21, before a slight decrease in FY 2021-22, aligning with the national trend.

- **West Bengal**: Saw a significant upward trend up to FY 2020-21 with the highest refill utilization in FY 2021-22 slightly dipping but still high in comparison to previous years.

- **Rajasthan**: Similar to Uttar Pradesh, peaked in FY 2020-21 and saw a decrease in FY 2021-22.

- **Bihar**: Demonstrated a consistent increase in refill utilization until FY 2020-21, with a minor reduction in FY 2021-22.

- **Madhya Pradesh** and **Maharashtra**: Both followed the national trend, with a noticeable rise in utilization until FY 2020-21 and a reduction in FY 2021-22.

Smaller States/UTs

Regions like **Chandigarh**, **Goa**, and **Lakshadweep** show relatively lower refill numbers, which may reflect smaller populations or better access to alternative fuels.

The data also brings forth states like Karnataka and Maharashtra, where despite having a sizable number of connections, the refill utilization doesn't mirror the same trend, indicating potential areas of improvement.

Comparison Across States and UTs

Jammu and Kashmir (including Ladakh) reported the highest number of connections issued among the UTs, whereas Lakshadweep had the least, which reflects the variations in population and demand.

Uttar Pradesh, being the most populous state, not only had the highest number of connections issued but also showed significant refill utilization, suggesting effective scheme penetration.

The correlation between connections issued and refills utilized is very strong (with coefficients above 0.96 for all years except 2020-21), indicating that more connections likely lead to increased LPG consumption as intended by the scheme.

The comparison across states and UTs revealed that the uptake and utilization of the PMUY scheme vary significantly. States like Uttar Pradesh, West Bengal, and Bihar showed high numbers of connections issued and refills utilized, indicating a strong implementation and adoption. In contrast, smaller states and UTs such as Sikkim and Lakshadweep showed lower numbers, which could be attributable to their smaller populations or better access to alternative fuels.

Discussion

The data indicates that the Pradhan Mantri Ujjwala Yojana has been successful in increasing LPG coverage across India, with an increase from 55.5% in 2016-17 to 99.3% in 2021-22. However, there are significant differences between states in terms of implementation and utilization of the scheme. Some states like Andhra Pradesh, Assam, Bihar, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, and Uttar Pradesh had consistently high numbers of PMUY connections issued in the available years. West Bengal had one of the highest numbers of PMUY connections issued, especially in 2017-18 and 2018-19.

The northeastern states of India, such as Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura have among the highest issuance of PMUY connections compared to their population size. This indicates the government's focus on increasing LPG access in these remote regions. However, these states also have some of the lowest refill utilization rates in the country. This highlights that merely providing connections is not sufficient to ensure the adoption of LPG. There is a need for more targeted behavioural change efforts and addressing accessibility issues in the northeast.

Larger states like Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan and West Bengal have very high utilization rates, underlining the scheme's success in densely populated rural areas where transitioning from traditional biomass was most needed. The vast differences in connection issuance and refill utilization across states and territories underline the regional disparities in the implementation and acceptance of the scheme. The high correlation between connections and utilization in these states reflects that access to LPG is driving usage. There are some systemic

barriers such as lack of distribution infrastructure and gendered factors, affecting refill utilization in some geography. A nuanced, context-specific approach is required to address these challenges through communication campaigns, affordable refill mechanisms and inclusive financing models.

It's important to consider that the PMUY is a government program aimed at providing LPG connections to BPL households. The trends may be influenced by factors such as government policies, economic conditions, and awareness campaigns. To understand the reasons behind the trends in PMUY connection issuance, further analysis and access to data for additional years would be necessary.

Limitations

Despite providing valuable state-level insights into PMUY implementation over five years, this study has some limitations. Data constraints restricted analysis to connection and refill indicators within a limited timeframe. Incorporating qualitative beneficiary data or socioeconomic factors could enhance understanding. Additionally, PPAC data lacks subsidy utilization details, preventing assessment of households reverting to traditional fuels. District or village-level implementation details were also unavailable for targeted analysis. Future studies could address these aspects through primary surveys and qualitative methods. While the current analysis maximizes available data to track access expansion, addressing these limitations would enhance holistic sustainability assessment.

Conclusion

The Pradhan Mantri Ujjwala Yojana (PMUY) has significantly advanced the distribution and utilization of LPG connections from 2017-18 to 2021-22, showcasing a notable transition towards clean energy use in Indian households. The peak in connection issuance in 2018-19 and the consistent use of refills point to the scheme's success in both reach and adoption. The strong correlation between connections and refill utilization underscores the effective uptake of LPG as a primary cooking fuel.

Despite regional variations, the overall trend reflects a positive shift in energy consumption patterns, aligning with the goals of enhancing health, environmental quality, and gender empowerment. The PMUY stands as a pivotal initiative in India's commitment to sustainable development, with the data suggesting a sustained momentum in its implementation. Future efforts should aim to consolidate these gains and address disparities highlighted by the data.

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A STUDY OF FINANCIAL AND CAPITAL STRUCTURE OF SELECT AUTOMOBILE COMPANIES IN INDIA

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Gopu Mounish Reddy[**]

ABSTRACT

The Indian automobile industry is an inspiring success story. In the past four decades, it emerged as a shining light to catalyse India's Gross Domestic Product (GDP) and the whole economy. The global management consulting firm McKinsey, termed the automobile industry as one of India's core sectors, estimating the manufacture of transport equipment to be worth up to 12 per cent of the Gross Value Added (GVA) in the manufacturing sector. The paper compares the financial structure and capital structure of select automobile companies in India viz Tata Motors Ltd and Mahindra CIE Automotive Ltd. The study is for a period of 6 years from secondary data. Tata Motors exhibited increasing equity and liabilities, higher reliance on long-term debt, fluctuating debt-to-equity ratios, volatile net profit, and varying trends in return on assets and financial leverage. In contrast, Mahindra CIE Automotive demonstrated stable equity, increasing liabilities, a stable debt-to-equity ratio, significant net profit growth, consistent return on assets, and steady financial leverage. Suggestions include optimizing debt levels, stabilizing net profit for Tata Motors, and learning from Mahindra CIE Automotive's financial stability and growth strategies.

***KEYWORDS**: Capital Structure, Financial Structure, Automobile Company.*

Introduction

The automobile industry contributes about 49 per cent to India's manufacturing GDP and 7.5 per cent to the GDP at large and is one of the leading driving forces of the economy. The auto realm's value chain is responsible for 32 million jobs. Interestingly, the Indian automobile market overtook Germany, Europe's largest economy and export powerhouse, to emerge as the world's fourth largest in 2018, valued at nearly $100 billion.

Financial risk refers to the potential for a company or an individual to experience financial losses or difficulties due to various factors such as market fluctuations, economic conditions, financial leverage, operational inefficiencies, or other external or internal factors. Business risk refers to the possibility of financial losses or adverse impacts on a company's operations, profitability, and overall performance due to various factors inherent in its industry, operations, or business environment. Capital structure is vital for a firm as it determines the overall stability of the firm. Here are some of the other factors that highlight the importance of capital structure. A firm with a sound capital structure has a higher chance of increasing the market price of its shares and securities. It will lead to a higher valuation in the market. So there is a need to study capital structure of the automobile industry, so that the companies understand the implications of it on their financial performance.

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Review of Literature

Mr M.Vinoth (2020)in his study related to the 25 companies in five industries namely Textile, Automobile, Electronic, Iron and Steel and Chemical, regarding their leverage and its impact on market valuation.

Dr Uma Maheswari Sankar, Dr S. Gokilavani and Major Dr R Rajasekaran(2020) has studied on dealers' and customer awareness and willingness for the e-vehicle in the automobile industry more specifically in the passenger car market.

Xingyu Zhou and Liangliang Han (2021) studied on financial leverage to improve the profitability of automobile manufacturing enterprises.

Dr Sanjay Rastogi and Dr Pradeep Saxena (2016) attempts to investigate whether high financial leverage has a significant and positive impact on a firm's value. For this purpose, after the multi-stage filtration process, we selected eleven companies listed on Indian stock exchanges, having more than fifty per cent of debt ratio in their capital structure.

Dr D.GEETHA and RIFANA (2022) analysed the global financial crisis in shareholder's return and risk as partly the responsible usage of excessive leverage by top management.

Objectives of the Study

- To analyse the trend in the financial structure of selected automobile companies in India

- To examine the capital structure of selected automobile companies in India.

- To examine the financial leverage of selected automobile companies in India.

- To evaluate the trend of debt equity and leverage on the ROA of the selected automobile companies in India.

Research Methodology

- **Research Design:** This research is an explanatory study of the Indian automobile companies, focusing on the capital structure and the financial leverage of the companies.

- **Sampling Design:** The range of sampling designs is of two Indian automobile companies, which are in the top 10 well-performing and well-established industries in India viz Tata Motors Ltd And Mahindra Cie Automotive Ltd.

Sources of Data

This study is based on secondary data collected for analysing Capital, Financial Leverage and other information regarding the analysis.

Statistical Tools

The study uses financial tools to analyse and compare the financial leverage through EPS, EBIT, Revenue etc.

- **Scope of the Study**: The analysis has been done for 6 years of time intervals, from 2017 to 2022.

- **Profile of the Select Companies**

Tata Motors Ltd is a global automotive company headquartered in Mumbai, India. It is a subsidiary of the Tata Group, one of the largest conglomerates in India. Tata Motors is renowned for its diverse portfolio of automobiles, including passenger cars, commercial vehicles, and electric vehicles. Founded in 1945, Tata Motors has emerged as a leading player in the Indian and international automotive markets. Tata Motors has established itself as a trusted brand, catering to customers in over 175 countries.

The company's popular passenger car models include the Tata Tiago, Tata Tigor, Tata Nexon, and Tata Harrier, while its commercial vehicle offerings include the Tata Ace, Tata Ultra, and

Tata Prima. In recent years, Tata Motors has also been at the forefront of the electric vehicle revolution, with the Tata Nexon EV and the Tata Tigor EV being among the first electric cars to be introduced in the Indian market.

Mahindra CIE Automotive Ltd

Mahindra CIE Automotive Limited is a leading global automotive manufacturing company headquartered in Mumbai, India. The company is a joint venture between Mahindra & Mahindra Ltd, one of India's largest conglomerates, and CIE Automotive, a global industrial group based in Spain. Mahindra CIE Automotive specializes in the manufacturing of automotive components and systems, catering to a wide range of vehicles including passenger cars, commercial vehicles, and two-wheelers. Established in 1999, Mahindra CIE Automotive has emerged as a trusted supplier to leading automotive OEMs (Original Equipment Manufacturers) across the world. The company operates a global network of manufacturing facilities across India, Europe, and North America, serving customers in over 40 countries

Data Analysis and Interpretation

- **The following tables analysis trend analysis of increase or decrease of the financial structure of Tata Motors and Mahindra Automotive Ltd**

Table 1A: Trend Analysis of Financial Structure of Tata Motors Ltd. (in INRcr)

Tata Motors (31 March)	2017	2018	2019	2020	2021	2022
Equity (trend%)	679.22 (-)	679.22 (0%)	679.22 (0%)	719.54 (5.93%)	765.81 (6.44%)	765.88 (0.009%)
Non-Current liabilities (trend%)	16,177.32 (-)	14,822.37 (-8.38%)	15,806.30 (6.63%)	18,391.40 (16.36%)	19,752.14 (7.40%)	16,962.91 (-13.99%)
Current Liabilities (trend%)	21,538.35 (-)	24,218.95 (12.44%)	22,940.81 (-5.29%)	25,810.82 (12.51%)	26,251.55 (1.71%)	26,992.81 (2.83%)
Total Capital and Liabilities	**58,878.28**	**59,212.30**	**60,909.63**	**62,589.87**	**65,059.66**	**63,899.87**

Table 1B: Trend Analysis of Financial Structure of Mahindra CIE Automotive Ltd. (In Inr Cr)

Mahindra cie Automotive	2017	2018	2019	2020	2021	2022
Equity (trend%)	378.40 (-)	378.80 (0.11%)	379.00 (0.05%)	379.00 (0.00%)	379.10 (0.03%)	379.32 (0.06%)
Non-current Liabilities (Trend%)	72.70 (-)	173.30 (138.91%)	219.00 (26.39%)	268.20 (22.46%)	397.10 (47.97%)	380.95 (-3.97%)
Current Liabilities (Trend%)	520.20 (-)	669.20 (28.65%)	657.10 (-1.81%)	798.30 (21.47%)	981.40 (22.94%)	990.23 (0.90%)
Total Capital and Liabilities	**4,092.50**	**4,539.40**	**4,747.60**	**5,011.50**	**5,428.80**	**5,842.32**

Interpretation

From the above tables it is observed that when comparing the financial structures of Tata Motors Ltd and Mahindra CIE Automotive, Tata Motors had higher equity and total capital and liabilities. In 2022, Tata Motors had equity of 765.88 INR cr and total capital and liabilities of

63,899.87 INR cr, while Mahindra CIE Automotive had equity of 379.32 INR cr and total capital and liabilities of 5,842.32 INR cr. Furthermore, Mahindra CIE Automotive showed significant growth in non-current liabilities, with an increase from 72.70 INR cr in 2017 to 380.95 INR cr in 2022, whereas Tata Motors had a smaller increase from 16,177.32 INR cr to 16,962.91 INR cr in the same period.

Tata Motors' equity remained stable, indicating consistent ownership. Non-current liabilities fluctuated, reflecting reliance on long-term borrowings. Total capital and liabilities gradually increased, showing a stable financial structure combining equity and liabilities.

Mahindra CIE Automotive had stable equity while witnessing significant growth in non-current liabilities and consistent growth in current liabilities. Overall, the company's total capital and liabilities increased steadily, indicating a stable financial structure.

- **The following tables compare the composition of capital structure of Tata Motors and. Mahindra Automotive Ltd.**

Table 2: Composition Analysis of Short-Term Vs Long-Term Debt Capital Structure

Years	Tata Motors ltd		Mahindra CIE Automotive Ltd	
	Non-Current Liabilities %	Current Liabilities %	Non-current Liabilities %	Current Liabilities %
2017	42.89	57.10	12.26	87.73
2018	37.96	62.03	20.56	79.43
2019	40.79	59.20	24.99	75.00
2020	41.60	58.39	25.14	74.85
2021	42.93	57.06	28.80	71.19
2022	38.59	61.40	27.78	72.21

Interpretation

From the above tables it is observed that tata Motors' non-current liabilities decreased from 42.89% in 2017 to 38.59% in 2022, indicating reduced long-term debt, while their current liabilities increased from 57.10% to 61.40% during the same period, suggesting a higher reliance on short-term debt. In contrast, Mahindra CIE Automotive saw an increase in non-current liabilities from 12.26% in 2017 to 27.78% in 2022, reflecting significant growth in long-term debt, while their current liabilities decreased from 87.73% to 72.21%, indicating a decreased reliance on short-term debt. Overall, Tata Motors had a higher proportion of non-current liabilities compared to Mahindra CIE Automotive, indicating a relatively higher reliance on long-term debt, while Mahindra CIE Automotive had a higher proportion of current liabilities, suggesting a greater reliance on short-term debt.

- **The following tables compare the trend analysis of solvency ratio and net profits of Tata Motors and Mahindra Automotive Ltd**

Table 3: Analysing the Trend of Solvency Ratio and Net Profit

Years	Tata Motors Ltd		Mahindra CIE Automotive Ltd.	
	Debt to Equity Ratio (Growth%)	Net Profit (Rs in Cr) (Growth%)	Debt to equity Ratio (Growth%)	Net Profit (Rs in Cr) (growth%)
2017	55.52 (-)	-2,429.60 (-)	1.566 (-)	69.30 (-)
2018	57.47 (3.39%)	-1,034.85 (-134.77%)	2.224 (41.99%)	93.90 (35.54%)
2019	57.04 (-0.75%)	2,020.60 (-151.58%)	2.311 (3.91%)	172.30 (83.21%)
2020	61.43 (7.14%)	-7,289.63 (127.71%)	2.81 (21.58%)	74.00 (-56.99%)
2021	60.07 (-2.26%)	-2,295.44 (-217.57%)	3.636 (29.30%)	110.30 (49.18%)
2022	57.39 (-4.66%)	-1,739.23 (-31.98%)	3.614 (-0.61%)	512.09 (364.15%)

Interpretation

In the above tables it is observed that Tata Motors Ltd has shown a fluctuating debt-to-equity ratio ranging from 1.566 to 3.614 over the years. The company's ratio has increased gradually. Mahindra CIE Automotive Ltd has a higher debt-to-equity ratio compared to Tata Motors, ranging from 2.224 to 3.636. The company's ratio has also increased over time. Tata Motors Ltd has experienced mixed growth in net profit, with both positive and negative growth percentages. Notably, there are significant negative growth periods in 2018-2019 and 2020-2021. Mahindra CIE Automotive Ltd's net profit growth is more stable, with positive growth percentages in most years. There is a substantial positive growth in net profit from 2021 to 2022.

Overall, Tata Motors Ltd has shown more volatility in its financial metrics, including debt-to-equity ratio and net profit, while Mahindra CIE Automotive Ltd has demonstrated a relatively more stable performance with a higher debt-to-equity ratio and consistent net profit growth.

- **The following tables compare the profitability ratio andsolvency ratio of Tata Motors and .Mahindra Automotive Ltd**

Table 4: Analysing the Trend of Debt Ratio and Roa

Years	Tata Motors Ltd		Mahindra CIE Automotive Ltd	
	Return on Assets (Growth%)	Debt to the Total Assets	Return on Assets (Growth%)	Debt to the Total Assets
2017	-0.034 (-)	0.634 (-)	0.029 (-)	0.872 (-)
2018	0.0003 (0.88%)	0.590 (-6.94%)	0.074 (155.17%)	0.852 (-2.29%)
2019	0.042 (139.33%)	0.623 (5.6%)	0.053 (-28.38%)	0.861 (1.06%)
2020	-0.073 (-273.81%)	0.587 (-5.77%)	0.020 (-62.26%)	0.840 (-2.44%)
2021	-0.030 (58.82%)	0.596 (-5.77%)	0.057 (185%)	0.819 (-2.5%)
2022	-0.026 (-13.33%)	0.577 (-3.19%)	0.101 (77.19%)	0.830 (1.34%)

Interpretation

In the above tables, the debt to total assets ratio for Tata Motors Ltd has shown a relatively stable or slightly decreasing trend, ranging from 0.634 to 0.577 over the years. Mahindra CIE Automotive Ltd has also demonstrated a stable or slightly decreasing trend in the debt-to-total assets ratio, ranging from 0.872 to 0.830. Tata Motors Ltd has experienced fluctuating trends in ROA, with both positive and negative growth percentages. Notably, there are significant negative growth periods in 2020 and 2022. Mahindra CIE Automotive Ltd has shown mixed trends in ROA, with both positive and negative growth percentages. Notably, there is a substantial positive growth in ROA from 2020 to 2021.

Overall, both companies have demonstrated relatively stable or slightly decreasing trends in the debt-to-total assets ratio. However, their trends in ROA differ, with Tata Motors Ltd experiencing more volatility compared to Mahindra CIE Automotive Ltd.

- **The following tables compare the financial leverage of Tata Motors and .Mahindra Automotive Ltd**

Table 5A: Analysis of Financial Leverage of Tata Motors Ltd.

Tata Motors Ltd.	2017	2018	2019	2020	2021	2022
EBIT	1,611	2,374	4,940	-651	1,354	1,499
EPS	-8.41	-3.58	7.00	-23.60	-7.21	-4.19
REVENUE	44,316	57,897	69,203	43,928	30,175	47,264
EBT	-2,353	-947	2,399	-7,127	-2,375	-1,292
FINANCIAL LEVERAGE	**-0.684**	**-2.506**	**2.059**	**0.091**	**-0.570**	**-1.160**

Table 5B: Analysis of Financial Leverage OF Mahindra CIE Automotive Ltd.

Mahindra CIE Automotive	2017	2018	2019	2020	2021	2022
EBIT	196	423	345	202	429	622
EPS	1.83	2.48	4.55	1.95	2.91	13.50
REVENUE	1,961	3,146	2,894	2,145	3,291	4,398
EBT	115	212	264	102	302	633
FINANCIAL LEVERAGE	**1.704**	**1.995**	**1.306**	**1.980**	**1.420**	**0.982**

Interpretation

In the above tables it is observed that Tata Motors experienced volatile EBIT, negative EPS, and fluctuating financial leverage, with a sharp decline in 2020 (EBIT: -651) and a negative EPS in multiple years. Revenue also decreased from 2019 to 2021 (69,203 to 30,175). In contrast, Mahindra CIE Automotive demonstrated consistent EBIT growth (196 to 622), positive EPS (1.83 to 13.50), and relatively stable financial leverage (1.704 to 0.982). Mahindra CIE Automotive's revenue increased steadily (1,961 to 4,398) over the analyzed period. Overall, Mahindra CIE Automotive displayed more favourable financial performance compared to Tata Motors. Mahindra CIE Automotive experienced steady growth in EBIT, revenue, EPS, and maintained a stable financial leverage ratio, reflecting positive financial performance and effective management.

Findings

- Tata Motors experienced a steady increase in equity and liabilities, while Mahindra CIE Automotive had relatively stable equity and increasing liabilities over the analyzed period.
- Tata Motors had a higher proportion of non-current liabilities compared to Mahindra CIE Automotive, indicating a greater reliance on long-term debt financing throughout the analyzed years.
- Tata Motors experienced fluctuating debt-to-equity ratios and volatile net profit, while Mahindra CIE Automotive showed a more stable debt-to-equity ratio with significant growth in net profit over the analyzed years.
- Tata Motors experienced varying trends in return on assets and debt-to-total-assets ratio, whereas Mahindra CIE Automotive demonstrated a more consistent return on assets alongside a declining debt-to-total-assets ratio throughout the examined period.
- Tata Motors' financial leverage fluctuated, accompanied by negative earnings per share and inconsistent revenue and EBIT trends, while Mahindra CIE Automotive maintained steady financial leverage, positive earnings per share growth, and consistent revenue and EBIT performance.

Limitations of the Study

- Factors such as industry norms, business strategy, and economic conditions may impact the accuracy of the analysis of the capital structure composition.
- Fluctuations in liability structure may not necessarily indicate a consistent trend and may not accurately reflect Tata Motors' financial stability or risk exposure.
- The information provided on one platform varies from the other affecting the calculation and resulting format of the research.
- This paper is only limited to two companies and doesn't represent all others with different approaches.

Conclusion

The analysis of Tata Motors and Mahindra CIE Automotive's financial structure and performance reveals important findings. Tata Motors experienced a mixed financial performance characterized by fluctuations in equity, liabilities, debt-to-equity ratios, and net profit. On the other hand, Mahindra CIE Automotive demonstrated a more stable financial position with consistent growth in net profit and a declining debt-to-equity ratio. Overall, it is recommended that Tata Motors closely monitors its financial metrics, optimizes its capital structure, and focuses on improving profitability. Mahindra CIE Automotive should continue to maintain its stable financial position, reduce debt, and sustain its growth trajectory. By implementing these suggestions, both companies can strive for long-term financial stability and growth.

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PROPELLING ENTREPRENEURSHIP IN RURAL AREAS: ROLE OF THE START-UP VILLAGE ENTREPRENEURSHIP PROGRAMME IN KERALA

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ABSTRACT

Self-employment is common in rural areas, and agriculture has traditionally driven the economy. Agriculture cannot be profitable for landless households. Poor households require three to four income sources to overcome poverty. Skilled labour, small businesses, and non-agricultural jobs provide significant income. Without market knowledge, subject-matter experience, accounting and costing skills, and financial assistance, micro/nano enterprises generally fail. Rural business is booming. Village-level entrepreneurship in industry, business, and agriculture boosts economic growth. Industrialization accelerates rural development. The Indian government prioritises rural entrepreneurship. The Indian government has implemented many policies, strategies, and projects to create an inclusive entrepreneurial environment to reduce poverty, create sustainable jobs, and improve social results. Emerging businesses that will accommodate the growing workforce need this ecosystem to survive. Job and business prospects are few for economically active Indians, especially youngsters and women. The Indian government's Deendayal Antyodaya Yojana-National Rural Livelihoods Mission includes the Start-up Village Entrepreneurship Programme (SVEP). The problem it addresses is its goal. This study evaluates the SVEP scheme's success in eradicating rural poverty, creating sustainable models, and improving social performance in Pathanapuram Block, Kollam District, Kerala. 1. Do entrepreneurs like the Start-up Village Entrepreneurship Programme (SVEP)? Is it long-term environmentally and economically viable? 2. Has this poverty-reduction approach worked? 3. Has the programme implemented sustainable development measures to promote rural entrepreneurship? 4. Have there been any issues with the system since implementation? The study tests SVEP's poverty-reduction effectiveness. 2. To evaluate SVEP entrepreneur problems. This study uses primary and secondary data. Kudumbashree, newspaper stories, the District Kudumbashree Mission in Kollam, and research institutions provided secondary data. Primary data comes from in-person interviews.

***KEYWORDS**: SVEP, Micro Enterprises, Rural Entrepreneurs, Development, Kerala.*

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Introduction

Government plans, initiatives, and policies play a crucial influence in shaping society, particularly in rural areas. Among the various initiatives implemented by the Indian Government since 2014, the SVEP scheme has recently garnered significant attention and support. In addition to other endeavours, this programme aims to eliminate poverty in rural regions by elevating them to establish viable employment prospects through the establishment of startups. Furthermore, the implementation of this plan is facilitated with the involvement of Kudumbashree, which serves as a National Resource Organisation (NRO) for SVEP. In order to qualify for the advantages of this scheme, one must be either a member of Kudumbashree or have a familial relationship with a member. By focusing on the development of young individuals in the community, we want to provide them with comprehensive training in business management, monitoring, and support. This

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programme will provide them with essential business skills, valuable exposure, and financial assistance in the form of loans to establish their own firms. Additionally, we will offer ongoing business support during the crucial initial six months of their ventures, via the NRLM Self-Help Groups (SHGs) and its federations. All of these factors contributed to the scheme's distinctiveness. The present study aims to assess the effectiveness of the SVEP scheme in achieving its primary goals, including poverty eradication in rural areas, developing sustainable models, and enhancing social performance. The study focuses on the Vamanapuram Block in Trivandrum District, Kerala.

Literature Review

Rural entrepreneurship refers to the establishment of a new organisation in a rural setting that introduces a novel product, services or generates a fresh market, or utilises a new technology (Wortman Jr., 1990, p. 330). Studies on entrepreneurship among rural women highlight the innovative and influential role they play in establishing businesses in remote areas (Anthopoulou, 2010). Abhishek Misra and Sachin Ghai (2020) emphasised that in the Indian context, women entrepreneurs are women who possess substantial financial control over a business and undertake the challenging role of an entrepreneur by initiating, coordinating, and overseeing the utilisation of resources with the aim of generating profits. Tiwari, N. (2017) noted that the active involvement of women in entrepreneurship can expedite the socioeconomic development of a nation. Kala (2018) did a study to evaluate the rural entrepreneurship development schemes implemented by the government of India. The paper discloses that SVEP was introduced in 2015 as a targeted initiative under NRLM. Its purpose is to stimulate entrepreneurial activity at the village level among impoverished rural households. This is achieved by offering guaranteed access to financial assistance, as well as capacity building and advisory services, to facilitate the establishment of local enterprises. SVEP facilitates a tighter connection between banks and financial institutions with local entrepreneurs (Abhishek Misra and Sachin Ghai, 2020). In their research paper, Reni Sebastian and Manoj P. K (2020) examined the impact of Kudumbashree, a poverty alleviation programme sponsored by the Government of Kerala, on the socio-economic empowerment of women's micro-enterprises in Kerala. They emphasised that Kerala has made commendable achievements in women's empowerment, with Kudumbashree playing a crucial role in this regard. Ravisankar (2022) conducted a study on the potential of Startups in India and concluded that it is now a period of significant growth and opportunity for Startups in the country. India has established itself as the third most significant startup ecosystem globally. The Prime Minister of India has just declared that 16th January will be commemorated annually as National Startup Day. The country's primary concern is unemployment, which can only be effectively addressed by confronting the obstacles encountered by startup entrepreneurs (Anitha & Veena.M., 2022). In a study conducted by Misha V (2022), it was found that the startup industry encounters several obstacles, including financial and human resource issues, from the initial launch to sustained growth. In their study, Krishna Dixit and Debashish Sakunia (2022) comprehensively elucidated the implementation of the SVEP programme. They assessed its effects in two blocks of the Chhattisgarh state and across 11 states, examining its impact on various social categories and conducting a gender-wise analysis, which revealed female predominance. Furthermore, they evaluated the overall impact of the programme on diverse enterprises in India. It was discovered that the trading sector has the greatest overall impact among new ventures. Within our socioeconomic categories, the OBC Category had a mean value of 475.90 in 2018 and 972.72 in 2019. Following OBC, the categories in descending order were ST, SC, General, and Minority. Inclusive Entrepreneurship is a crucial concept in the process of rural development. Inclusive entrepreneurship (IE) is a strategic approach aimed at promoting the establishment of businesses for marginalised and disadvantaged individuals by providing them with training in business planning, tailored business development objectives, and access to financial resources, among other means.

Research Gap

Kerala is the foremost state in terms of implementing this strategy. Examining previous literature indicates a scarcity of research about the evaluation of SVEP (Start-up Village entrepreneurial Programme) in Kerala in terms of its contribution to entrepreneurial development, its influence on poverty reduction, and its problems and opportunities. Hence, the objective of this study is to assess the effectiveness of the SVEP (Start-up Village Entrepreneurship Programme) initiative in the state of Kerala, specifically in the Kollam district.

Research Objectives

- To assess the efficacy of the SVEP in relation to the eradication of poverty.

- To examine the obstacles encountered by entrepreneurs involved in the SVEP programme.

Research Methodology

The current study is characterised by its descriptive nature. This study utilises a combination of primary and secondary data sources. The collection of secondary data includes information obtained from websites, publications published in newspapers, reports from the District Kudumbashree Mission in Kollam, and studies conducted by various research organisations. Data is mostly acquired through the use of an interview schedule. The current investigation has encompassed entrepreneurs in six panchayaths within the Pathanapuram Block of the Kollam District. The study includes a sample of 60 rural entrepreneurs specifically from Pathanapuram Block Panchayath, Kollam. The current study has utilised a random sample methodology. The data were gathered from a specific group of entrepreneurs from different panchayaths within the Pathanapuram Block using the interview approach and a structured questionnaire.

Analysis and Discussions

Upon analysing the gender distribution among the 60 entrepreneurs sampled, it was found that all of them are female. Any individual who is a member of an NHG or any of their family members can participate in the scheme. They bolster their family's daily income by engaging in various commercial endeavours, such as trade, manufacturing, and providing services. The majority of the entrepreneurs included in the sample were operating their own businesses, while only 15% were engaged in group business ventures. The current study is conducted among a sample of 60 entrepreneurs. A diverse range of businesses falls under this category, such as textile and tailoring shops, beauty parlours, and retail stores. The majority of entrepreneurs obtained knowledge about the scheme and its potential from Micro-Enterprise Consultants (MECs). It is evident that their contribution to the advancement of entrepreneurship in rural areas is significant. The majority of business companies were established through a skill training programme conducted by Community Resource Persons (CRPs) who were specifically employed to provide entrepreneurial skill development. Approximately 96% of entrepreneurs have obtained a loan from the Community Enterprise Fund (CEF) by submitting a comprehensive project plan to the relevant BNSEP - Block Nodal Society for Enterprise Promotion. The assessment of credit sufficiency indicates that a majority of entrepreneurs found the funds to be inadequate for operating their businesses. Additionally, a significant proportion of entrepreneurs rely on informal sources of funding for financing. When questioned about loan repayment defaults, most entrepreneurs have not experienced any delays.

Table 1: Main Data from Selected Rural Entrepreneurs

Form of Business	Frequency	Percentage
Individual	51	85
Group	9	15
Total	60	100
Nature of Business	**Frequency**	**Percentage**
Textiles	9	15
Beauty Parlour	4	6
Tailoring	18	30
Retail Stores	7	12
Others	22	37
Total	60	100

Effectiveness of SVEP	Percentage				
Scale	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Ease of Procedures	78	4	10	8	--
EDPs	80	6	8	6	--
Skill Training Programs	79	8	13	--	--
Marketing Support	65	10	5	12	8
Orientation	81	12	7	--	--
Finance Support	76	8	8	8	--
Post implementation support	61	8	25	6	--

Challenges					
Scale	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Lack of sufficient credit	14	16	20	28	22
Less marketing support	25	12	14	20	29
Informal finance	78	10	--	10	2
Unable to repay on time	20	18	--	52	10
Clash among Group members	79	11	--	8	2
Diversion of loan amount	54	18	--	8	20

Source: Primary Data

The majority of businesses think that transitioning to skill training programmes and streamlining the loan application process have been essential in their continued participation in this plan. However, when it comes to marketing support, only a select handful are receiving comprehensive assistance from the programme. Entrepreneurs encounter a noteworthy challenge due to these circumstances, which subsequently affect the long-term viability of their firms. Additionally, certain entrepreneurs express unhappiness with the support provided beyond the implementation phase. Upon careful examination of the aforementioned issues (Table-1), it is evident that the most significant obstacles faced by entrepreneurs include reliance on informal sources of finance, conflicts among group members in the context of group firms, and misappropriation of loan funds. Analysis reveals that none of the entrepreneurs exhibit a significant level of unhappiness, whereas only a small number of recipients express dissatisfaction. The project has garnered a majority of beneficiaries who express satisfaction. Additionally, the analysis revealed that 22% of the rural businesses express a high level of satisfaction with the initiative.

Major Findings

The current study demonstrates that female entrepreneurs are more prevalent in the domain of rural entrepreneurship. The identification of opportunities has a crucial role in determining the level of success achieved by rural entrepreneurship in emerging nations. The survey indicates that several entrepreneurs have participated in skill training and entrepreneurship skill development courses facilitated by Micro Enterprise Consultants and Community Resource Persons. Financial support is a crucial factor in determining the viability of businesses, and SVEP demonstrates its ability to offer loans from the Community Enterprise Fund to rural entrepreneurs. However, upon examining the adequacy of credit, promptness of cash availability, need for extra financing, and monthly savings, it becomes clear that the programme is only successful in terms of providing loans in a timely manner. Enhancing rural entrepreneurship can be achieved through the implementation of skill development programmes, market support initiatives, hand-holding assistance, strengthening extension services, and fostering skills. The present study assessed the efficacy of the programme by examining the ease of obtaining loans, marketing support, and other procedural aspects. Upon examining previous literary works, it is evident that a significant proportion of entrepreneurs encounter numerous difficulties when operating rural start-ups. According to the current study, it has been discovered that the primary obstacles encountered by rural entrepreneurs participating in the SVEP scheme include reliance on informal sources of funding, conflicts among group members in the context of group companies, and misappropriation of loan funds. Additionally, it has been observed that rural startups in the contemporary market economy are encountering intense rivalry due to factors such as a weak brand image and inadequate utilisation of web marketing support. The growth of concentration is significantly hindered by relying solely on local market and seasonal produce. The report also indicates a significant prevailing trend: individual entrepreneurs have a more secure position compared to group entrepreneurs. The embezzlement of corporate funds inside a network of companies will inevitably impact the shared comprehension and camaraderie of the company.

Suggestions

The study proposes several recommendations to ensure the long-term viability of rural enterprises established under this programme. These include providing bank linkage support to entrepreneurs who require additional financing, in order to alleviate the financial burden associated with using informal sources of finance that charge higher interest rates. Additionally, the SVEP guidelines allow for the possibility of granting loans twice to trustworthy entrepreneurs, which should be implemented to ensure consistency. Furthermore, it is crucial to provide marketing support to

entrepreneurs engaged in traditional businesses, such as handicrafts, through the use of information and communication technology (ICT) platforms. Based on field experience, it has been seen that the business's performance tracking system is malfunctioning. In order to safeguard the long-term viability of corporate organisations, policy makers should mandate the maintenance of accurate financial records, as well as the conduct of regular audits on a yearly or monthly basis. This could assist in determining the growth potential of rural firms, identifying innovative ideas, and assuring payback of credit obtained. Amidst the era of the internet, it is imperative to cultivate products into recognisable brands. In order to establish a brand for a product, it is essential to create groups of comparable businesses. The establishment of specialised institutes focused on research and development of Micro-enterprise products (Kudumbashree products) can facilitate the diversification and enhancement of their value. The development of internet marketing support must also be expanded. For production or manufacturing companies that focus on a certain product, the acquisition of raw materials might be guaranteed by establishing cooperative societies.

Conclusion

Rural entrepreneurship is essential in tackling the socio-economic challenges of rural poverty, unemployment, inequality, and low economic growth. Numerous studies have been conducted on rural entrepreneurship in nearly all developing countries worldwide. Studying the impact of a certain government is a matter of significant significance in a growing country such as India. The study assessed the effectiveness of the Start-up Village Entrepreneurship Programme and found that it has a substantial influence on rural individuals, particularly those who are disadvantaged or poor, by assisting them in enhancing their social and economic standing.

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ENHANCING CLOUD COMPUTING SECURITY: A MACHINE LEARNING-BASED AUTHORIZATION MODEL FOR ADVANCED PROTECTION MECHANISMS

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ABSTRACT

Since its inception, identifying handwritten characters has gained broad acclaim and expanded significance in the world of pattern detection experts due to the multitude of functions and uncertainty in request approaches. This is because application strategies can often be rather unclear. On the other hand, a system in the cloud enables instantaneous connection to a pooled collection of adaptable computing power and other gadgets. Many who are competent in the field claim that the procedure of blurring photographs requires more than the usual cleaning methods. Data disappears via numerous varieties of machine learning techniques, not only through the sorting steps themselves but also at later times. The underlying data depicted by a convolutional neural network either gets misplaced or completely disappears during the grouping procedure (CNN). The restoration of low-impact pictures online occurs through repeated cleaning, which removes the imperfections left over from each screening operation and produces a more consistent picture. The multilayer wavelet transform (MLWT), which is employed in online computing authorization, is a technique for analysing characteristics made up of several cleanse groups. In this case, the feature collection and analysis steps result in a considerable amount of data being lost from digital images. The autoencoder-based deep learning techniques look at these problems, and the techniques also deal with the new opening pieces that have been added to the tiers. The size and direction data are taken into account in this step as a way to build a machine learning system that will effectively denoise pictures online. The proposed design is provided with the capacity to precisely determine the degree and kind of noise used in the system's learning procedure in real time. The strategy we've suggested, which focuses on sound dispersion, can be employed to identify the type of sound. We looked into nine different sound patterns in an attempt to classify different kinds of disturbance. The technique preferred will be inflated neural cleaning, with the goal of identifying the precise type of noise present in the computer images. Even if the complexity of the situation is low, an autoencoder-based neural network algorithm is able to produce a number of demonstration outcomes in electronic photo blurring procedures that are greater than those produced by a standard deep learning method. In comparison to the efficacy of the equipment now in use, the approach created by merging the self-encoder and inflated neural filtering methods performs better. It is feasible to completely replicate the low-level pictures by employing the technique described in this paper. By evaluating a number of measures, including the peak signal-to-noise ratio (PSNR), the structural similarity index, and others (SSIM), we succeeded in demonstrating that our suggested method outperformed other already available methods for minimal-density digital images.

KEYWORDS*: Cloud Computing, Machine Learning, Multilayer Wavelet Transform, PSNR.*

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Introduction

The most effective methods for developing picture bleaching have recently been discovered using machine learning. Examples of various noise dispersions that depend on the surroundings' properties and variables include the following: Distributions of chances come in a variety of shapes, including Erlang, speckle, uniform, Rayleigh, pepper and salt, poison, exponential, log-normal, and Gaussian. The whitening architecture is depicted in Figure 1. When compared to more conventional

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enhancing techniques, automated learning-based noise elimination technology is capable of generating a high peak signal-to-noise ratio (PSNR) value. For instance, to set the goal of acquiring variables, it is crucial to obtain attributes from pictures. Guided practice is one way to do this. Prior to starting instruction, this option is crucial for setting up the noise reduction system for picture classification [1]. Uncontrolled instruction methods are employed to instruct the provided examples and produce updates for use throughout the matching procedure, which is necessary to complete the particular duties at stake Methods for autonomous learning are used. Recently, a loop in the cycle GAN technique for denoising photos was revealed, with its primary use being the teaching of the hyper resolution system. Designing a data collection method to mark unmarked systems is one step of the branding method in the semi supervised acquisition approach. Each of the algorithm's elements is that. The subject is taught using the sinogram reconstruction system, which is also used for containment dispersion and the allocation of sinograms. Such coupled sinograms can be acquired using a variety of methods, such as feature categorization and high-fidelity ultrasounds [2, 3]. The convolutional neural network (CNN) has shown superior results in picture noise reduction thanks to its simple-to-use network framework [3]. These convolutional cores have a broad range of visual characteristics that can be applied to different problems with categorization. Because of the initialization benefit it has, the development of these seeds happens at a very slow rate. If any aberrations are visible in the images that are now being handled, the graphic processing unit (GPU) may be able to identify their presence. This specific scenario's machine learning with excessive fitting issue is resolved by applying this technique. The data supplementation technique can be used as a tactic to address overestimating issues in ML. This can be accomplished by using the leftover learning component method [4], which is combined with a downward slope and has the potential to accelerate the procedure. Since it manages enormous convolutional seeds, the Alex Net method, which may handle a variety of methods [5, 6], is employed to arrange the areas that require a small quantity of storage. The locations are organized using this technique. Figure 1 shows low-intensity, poor-resolution digital photos, some of which are noisy and some of which are distinct. Thebasic block structure of the conventional method, which is applied in the framework of the picture noise reduction application, is shown in Figure 2. The conventional method of picturehere, noise elimination is being utilized to lessen the quantity of distortion that existed in the initial photos. This method produces superior outcomes in the finished product if paired with deep learning. The U-Net approach, which was created with the aim of denoising photos [5], incorporates wavelet-based technologies. For the purpose of photo noise reduction, CNN and the Gaussian denoising of images method are effective and practical. It uses a large image area to function.

Motivation

Because of the existence of various distortion bands that are impossible to predict in real-life situations, the standard of the affected photos has been lowered. It is not enough to create a clean photo employing conventional techniques, like a sorting approach that erases noise from the bandwidth, in order to achieve a higher level of visual quality. The feature collection method of the deep learning method will prove fairly important when looking at the method of visual denoising from a long-term point of view. Currently, the multifunctional degradation method is being applied to the chaotic wavelength group [6]. To avoid taking away from the extended pictures, it is crucial to minimize the sense of gridding in the photos while enlarging digital photos. A diagram of the picture's denoising operation using an automatic encoder is shown in Figure 3.

The Structure of the Study

The organization of this study is as follows: Initial results are included in Section 3's summary of modern image denoising techniques. You may find the process for suggesting sorting methods for digital pictures in Part 4 here. The results of the research are described in Part 5. The task that has been performed thus far is outlined in Section 6, along with the following duties:

Preliminaries

The wavelet sorting method has been used for photo denoising in the area of image analysis for a sizable length of time. A wide range of research topics [8, 9] require the technique of image restoration. In this case, a description of the technique's general efficacy is given using the pixel per Second number. The setting of picture demising with super resolution has demonstrated possibly beneficial efficiency for dictionary-based techniques [9]. Recent innovations have led to the establishment of previous knowledge-driven formalization techniques as a portion of the picture denoising methodology [10]. The common normalization techniques have the knack of quickly and successfully removing distortions from

noisy images. The simulation of photograph denoising that is carried out on the basis of numerous limited depictions is particularly common in the field of computer graphics. The pictures are vertically recreated using an approach that employs a list of words after applying a sparse visualization method to find the information locations in the pictures.

Figure 1: An illustration of a denoising picture in a cloud setting

In the photos, find the information values. Significantly more variable parameters will be equal to zero than other values [11,12]. Chen et al. present a deep learning approach for denoising images inside the framework of a software programme. They investigated and evaluated a wide variety of neural network models that perform superbly for feature mining under noisy conditions [13]. The artificial intelligence operations were stacked one above another to accomplish this. Ahirwar et al. present a CNN that is fully linked and capable of extracting features from pictures notwithstanding the existence of ambient noise when it comes to picture denoising approaches [14].A thorough CNN architecture is provided for the image-denoising procedure by Mao and his coworkers. This model has 30 tiers of convolutional and deconvolutional sections added to a repeating neural network structure. To complete the related techniques more rapidly, an imbalanced jump over the levels is used.They successfully overcame two difficulties by adopting extensive CNN as an immediate outcome of employing this strategy.The problem has been modified, which is the primary cause, and it precludes effective reverse propagation, which is the next. The slope issue, which has several possible causes, is an important sign of insufficient reverse propagation. The approach that might be utilized to fix or eliminate the slope issue involves increasing the overall number of tiers in the system. There is a greater possibility that the number of errors committed will be reduced to an appropriate level as a network's tier count increases. They have constructed their intranet link in such a way that the sloped grains remain broad-cast. This is done by using conventional and deconvolutional stages to up and down-sample the data, respectively. Another problem is that there had been a decrease that persisted throughout the down-sampling tier testing operation. By properly instructing the higher levels [15], which incorporates the use of parameters, this data flow could be minimized or eliminated. Nowadays, it is possible to keep all of the data relevant to the entire picture in just one area with the aid of data extraction and deep learning [16, 17]. Due to the machine learning framework's lack of a selection of image attribute options, it cannot guarantee anything in this regard [18]. Although the retrieved characteristics should be robust, deep learning makes no assurances in this respect. In the framework of picture-denoising apps, a significant amount of research on ML technique methods is undertaken. This CNN method for denoising pictures is combined with the powerful removal of features from the images embedded. These two procedures are performed in tandem with each other. The CNN approach, which includes several pictures can be handled effectively even if there are related levels [5]. The brightness is weak, and the borders are fuzzy.

The objective of recreating the pictures without the use of gridding is accomplished by combining ripple and U-Net techniques. Machine learning algorithms can manage loud, irregular pictures and reconstruct them into a usable state. Each of those devices' has the power to do this. The Continuous Neural network, combined with kernel-based approaches, performs remarkably well while handling distorted, asymmetric images [19]. S. Kaur et al. [20], Bengio et al. [21], and Chetlur et al. [22] described a combination of multilevel wavelet filtering (MLWT) methods with CNN for the purpose of denoising images in their respective research. As a result, they struggled with irregular and low-impact digital pictures, and that's why they're unsuccessful in the noise reduction field.

Research Gap

Each of the many approaches uses the technique of CNN to reconstruct digital images from a messy region. Struggling with weak-edged and noisy pictures is a challenge in processing pictures

because they are challenging to analyses. A twin U-Net deep learning method was used to solve the problem, as was previously mentioned. It was unsuccessful despite having excellent PSNR and SSIM levels. The gridding impacts of inflated convolutions, which happen when extremely dimensional photos are increased and shrunk in measurement, are especially detrimental to low-level digital photos. Most deep learning methods fall short when it comes to choosing the right core for a CNN because of the unpredictable operation of the distorted images.

- **Upholding Strict Confidentiality**

There are limitations on the details accessibility, its distribution, and the data's security from being viewed or obtained in an illegal way.

- **Moral Rectitude**

Preventing unauthorized outsiders from changing or deleting information or ensuring that when content is given from one party to another, the receiver will receive exactly the same information.

- **Availability**

It guarantees that the relevant data or assets are available when they are needed. This guarantees that amenities are constantly available when needed.

- **Key Management**

Due to this, it is feasible to negotiate, pre-serve, and establish interaction credentials between participants.

- **The Nonrepudiation Policy**

It provides insurance in the event that one of the businesses involved in the deal chooses to claim they were not involved in the conversation in whole or in part.
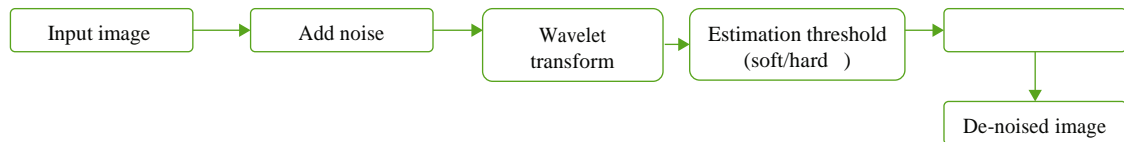
Figure 2: A block structure for the traditional method of image noise reduction
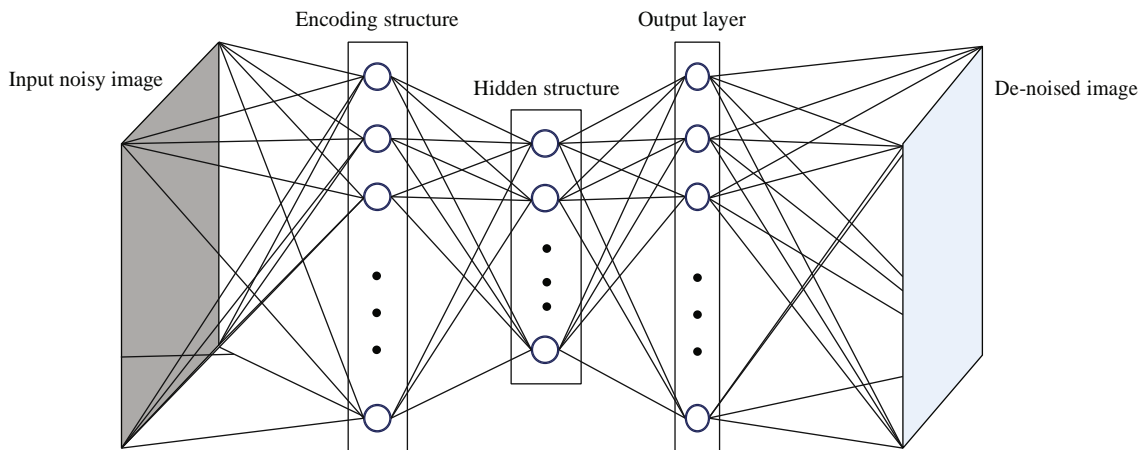
Figure 3: Shows an auto-encoder method for picture denoising with a modified stream structure

The phrase "systems as an assistance," or simply "PaaS," signifies a way for anyone, whether they are the developer of the item or an end consumer, to utilize the facility application without having to download it to their facilities or even run it on their own computer.t provides a high level of platform integration for multitenant platforms. Clients select platforms as a solution when they're incapable of managing the foundational technology, which includes servers, operating systems, networks, and memory. Platforms as a Service (PaaS) examples include Microsoft's Azure, Google Apps Engine, and Force.com.

Distributing different physical assets over the internet is known as infrastructure as a service (IaaS). The acronym IAAS stands for "infrastructure as a service." IAAS's main goal is to make it easier for software and operating systems to swiftly reach servers, drives, and connections. As an outcome, it can use the application programming interface (API) to deliver fundamental infrastructure functions as needed. The client has influence over the computer, apps, and operating system even if they aren't in charge of maintaining the basic equipment in the cloud's design. Companies like Amazon Elastic Cloud Computing (EC2) demonstrate IaaS. Users may keep significant paperwork, documents, and other content in one central area using databases as a service (DaaS). DaaS is another term for "cloud computing." Furthermore, this provides facilities related to the preservation of enormous amounts of records, each of which can be extracted for useful details. The record set, which is in charge of keeping user-related details like private records and authentication data, is a crucial part of these offerings as well.

Problem Statement

The number of tiers in CNN will determine how well the gridding impact of dilation convolutions is removed throughout picture restoration. Additionally, the analysis core utilisesCNN can produce effective image repair outcomes.

Proposed Solution

The self-encoding method is combined with CNN model development. From the feed to the result flow of data in autoencoders, the picture extraction elements must be reliable and multilayered. Convolutional expanded sorting is a technique that can be used to enhance the pictures at receptive zones during enlargement.

Methodologies

To effectively alter the network design and rebuild chaotic ones, the current one must be modified. For improved image denoising, the multi-layer-based awareness method is preferred [23]. Convolution and learning about the size and nature of each attribute make up the CNN. For a low-level noise reduction approach, this design could be made easier. With the current methods, the area of concern of the resulting photos that have fuzzy and incorrect picture artefact issues is not taken care of [22].

- **A Clarified Denoising Method Based on Wavelet Filters.** The phases in the wavelet sorting method for obtaining features are shown in Figure 3. Wavelet change is referred to here as WT. An acronym for feature analysis is FP.

Making sure that user data is secure in cloud computing is one of the main priorities. The administration of authenticity and honesty, the execution of verification, and the achievement of accessibility are just a few of the issues covered by information security.
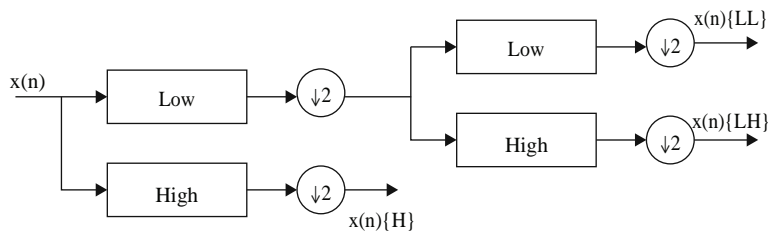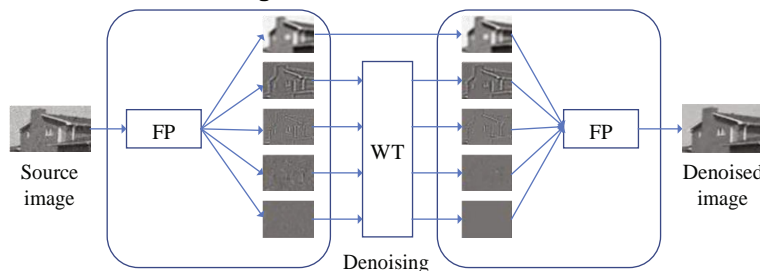

Figure 4: Wavelet area filters

Figure 5: A function extraction method using ripple smoothing

Among numerous others. Only customers who have been properly verified can browse information to protect data anonymity. Preserving information security entails making sure that each record is accurate, whether it is being kept locally or on a remote system. Identification is a method of confirming an individual's identity. To decide whether or not to provide them access to the data they asked for. Data accessibility is the willingness to obtain information at any moment and for any reason. Yet, in a cloud-based system where user records and personal details of users remain distinct from each other, safeguarding can be preserved. Anonymity is typically achieved through the use of encryption technology. Privacy is not only significant when considering the safety of user-maintained papers but it is also required to safeguard the integrity of data sets kept on online servers when private data is in danger of being exposed by an enemy. The technique of encryption can be utilized in this situation, but it takes a long time to protect and retrieve data because thousands of operations are happening at once. Thus, a structure was required to tackle difficulties regarding customers and internet servers by utilizing the methods described as a way to achieve both rapidity and safety. This choice isn't offered for the safety of databases. Sharing files with others costs money. They don't offer a wide range of safety options to customers. The largest number of initiatives either center on the customer side or on the system end. The customer is not provided archiving of files

Step 1: Take into consideration the $x_1(n)$, $x_2(n)$, $x_3(n)$, and $x_4(n)$ subband pictures.

$$X(n)\{LL\} = \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}, \quad (1)$$

$$X(n)\{LH\} = \begin{bmatrix} -1 & -1 \\ -1 & -1 \end{bmatrix}.$$

Figure 4: illustrates subband splitting in the photos using a wavelet low-level and high-level sorting method

Step 2: Depending on the stages, {k is 1, 2, or 3...,} in this case for subband pictures up to $x_k(n)$. The wavelet cleaning is specified as $F(y;\Xi)$; let $\{(y_k, y_k)\}$ with a time range from k = 1 to N for our training regimen. Daubechies (DB2) wavelets are used in this case and integrated with CNN to generate connected internet results. It refers to comparing inputs to photographs taken in the real world. Wavelet shift and reverse wavelet conversion are used, accordingly, for pattern collection and analysis [24]. Wavelet inversion data are used in Figure 5 to explain the parameter analysis [25].

Step 3: In the CNN area, the internet constant for the wavelet transform is assigned as

$$L(\Xi) = \frac{1}{2N} \sum_{k=1}^{N} \| F(y_k ; \Xi) - x_k \|_{F'}^2 \quad (2)$$
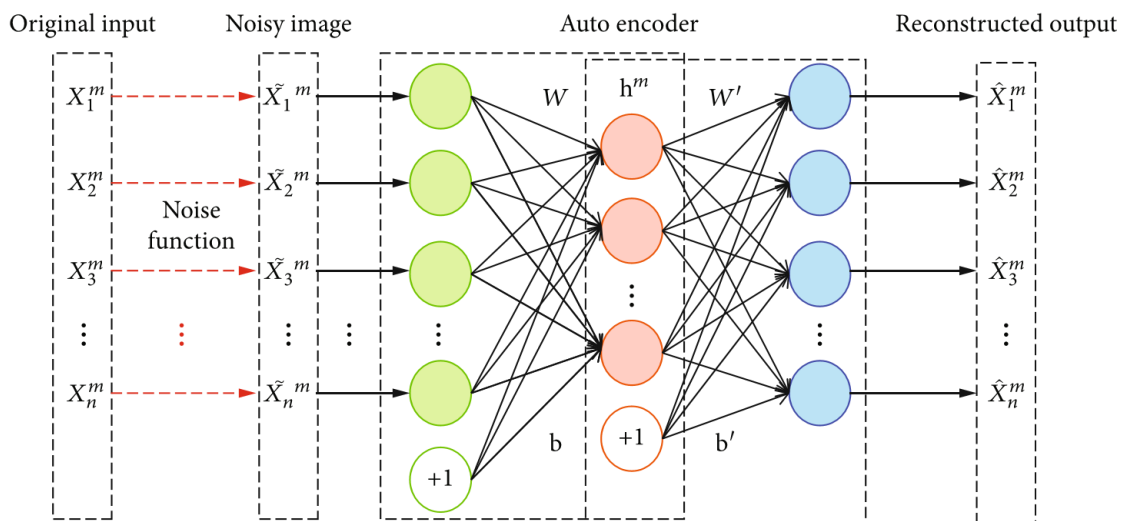

Figure 6: The suggested framework of a machine learning method using a self-encoder where F stands for the objective of the study and the variable is indicated by the symbol.

Proposed Denoising Method Based on machine Learning

In the machine learning portion of our suggested approach, we use automatic encoder methods, and in the restoration component for actual noisy pictures, we use a divided convolution cleanse [26]. In comparison to the previous approaches, this new strategy offered superior PSNR and SSIM numbers [27]. The sequential procedure that ensues is the suggested method.

Step 1: Let's think about the basic architecture.

$$Y = x + \sigma, \tag{3}$$

where is the additive white Gaussian noise (AWGN) standard deviation, and x and y are the comparison picture and messy picture, respectively. The purpose of a clear and damaged visual is

where l denotes the distortion θ intensity and is the variable.

$$x_k = f(y_k, \theta, l) \tag{4}$$

Step 2. Utilising random gradient variables to teach the methodThe visual design is based on the estimation.

$$g_m = \sum_{k=1}^{N} p_\theta(x_k \mid y_k). \tag{5}$$

The approximate learning model is

$$l_a = \sum_{k=1}^{N} p_\emptyset(y_k \mid x_k). \tag{6}$$

where θ, ϕ stands for the encoders' prediction variables.

Step 3: Using the difference operation, the likelihood of hidden scalar dispersion is determined as

$$L(\theta, \emptyset, x_k) = div(q_\emptyset(y_k \mid x_k) \| p_\theta(y_k)) - E_{q_\emptyset(y_k \mid x_k)}(log_{p\emptyset}(x_k \mid y_k)). \tag{7}$$

Step 4: The distinctive factorised Gaussian operation has the following shape:

$$q_\emptyset(y_k \mid x_k) = N(p(x_k), w^2(x_k)l), \tag{8}$$
$$p_\emptyset(x_k \mid y_k) = N(\mu(y_k), \sigma^2(y_k)l),$$

while $p(x_k)$ and $w^2(x_k)$ represent the encoder's output and $\mu(y_k)$ and $\sigma^2(y_k)$ represent the decoder's output.

Step 5 of picture reconstruction

$$y_k = f_\theta(x_k) = s(w_x + b), \tag{9}$$

The random translation is denoted by the symbol where x ~q_D

$$(x_k \mid x_k)$$

Step 6: A deep learning-driven algorithm's overall architecture is

Minloss(x,x).s.t.x = f (y,σ) \tag{10}

Last but not least, the loss mechanism can be computed as

$$L_m = \frac{1}{N} \sum_{k=1}^{N} (x_k - y_{k-1})^2 \tag{11}$$

Remark 1.When computing the loss function, fuzzy effects on the final photos from a noisy area can be minimised. Stochastic patterning offers a superior reconstruction of images [28]. Finally, the decrease in operation monitoring equation is incorporated into the design of our suggested method [26]. Our suggested framework's development with an autoencoder is shown in Figure 6.
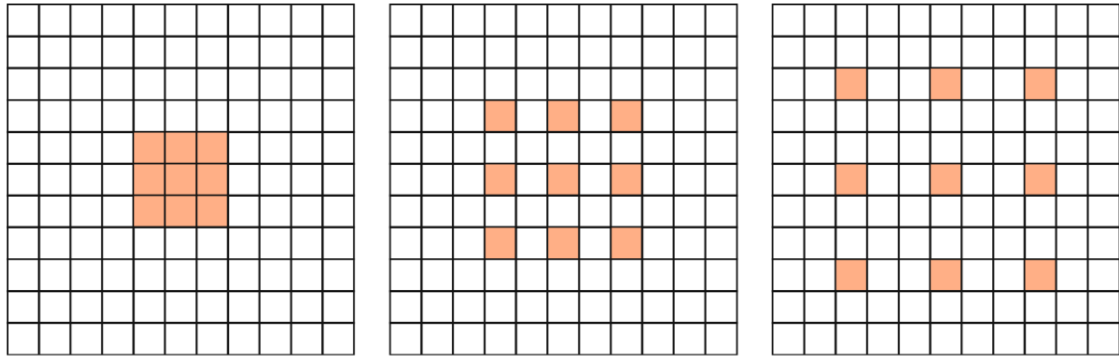
FIGURE 7: Dilation convolutional at spatial resolution.
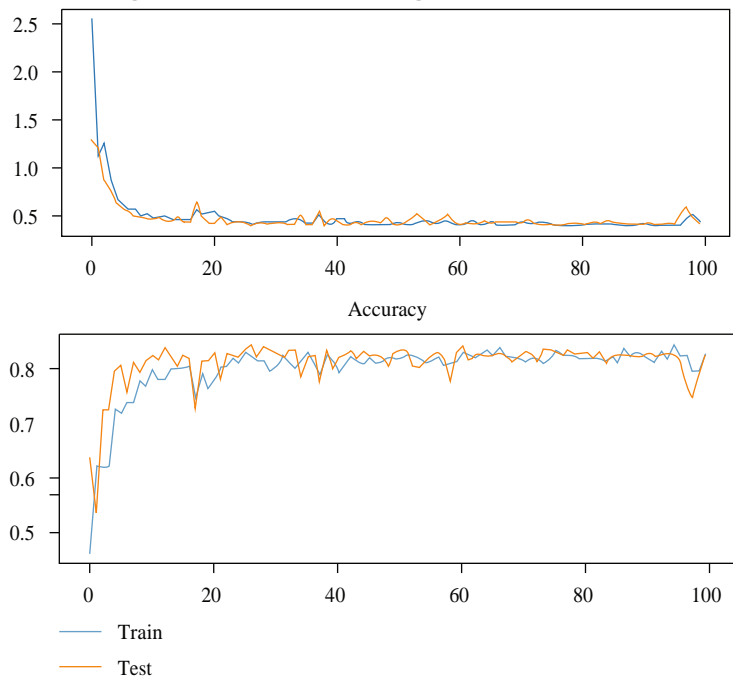

Figure 8: shows test photographs in databases

Accuracy

Train

Test

Figure 9: shows the teaching and assessment dataset's impairment and precision measurements

Results and Discussion

For our exploratory findings, we used 12 test photos to evaluate our method [29]. For our tests, the public databases for denoising picture techniques are Nam, SIDD, DND, and CC. With datasets, simpler wavelet filtering techniques are created and tested [23]. The NC12 collection is not employed in our study since real-world pure pictures are not readily available [30]. Digital pictures are being denoised using an approach based on CNN using the multilayer wavelet technique [31]. Figure 7 displays the depth of field of expanded convolutional filters. We are confident that viewers will comprehend our suggested strategy more clearly. We tested our method using both actual distorted photos and true-to-life pictures, and it produced the greatest outcomes for regeneration. With the kernel approach, which is applied to transform nonlinear attributes, the characteristics gathered from CNN can be used [32–34].The wavelet sorting method has trouble recreating the denoised picture results following the research bank breakdown. The hazing features in the denoised pictures with defined borders are being affected by the WNNM, MLWT, and DnCNN algorithms [35]. The MLWT is a very effective tool in our situation for reconstructing the borders from a chaotic band [36]. Figure 8 displays the pixel-by-pixel erosion speeds that result in gridding artefacts.
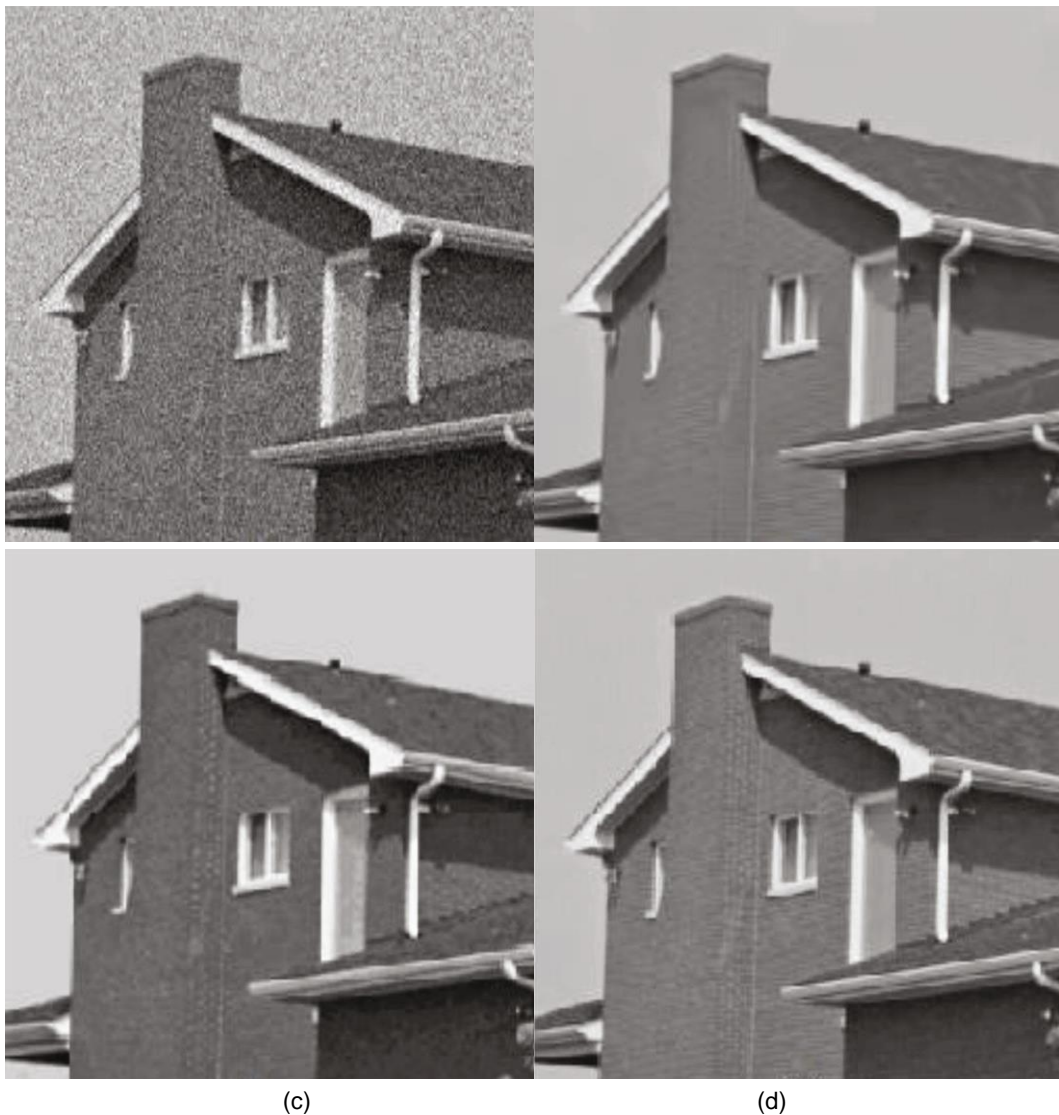
(c)   (d)

Figure 10: The outcome for the house photo

Table 1: Lists the findings from the learning network

Metric PSNR SSIM	Test images	Methods	S. no
21.853 0.512	Number image	DnCNN	1
25.989 0.622		WNNM	
24.163 0.2		MLWT	
29.67 0.731		Proposed method	
22.02 0.43	House image	DnCNN	2
25.90 0.632		WNNM	
26.64 0.645		MLWT	
27.99 0.763		Proposed method	
27.4 0.53	Lena image	DnCNN	3
26.8 0.654		WNNM	
21.90 0.326		MLWT	
31.71 0.844		Proposed method	

Convolutions are in use. Our certified 2D Dilated convolution core has a dimension of 3 by 3, and its approximations for the speed are solidarity, 2, and 3 [37–39]. Our calculation differs from the real recessive fields because it uses distinct sets of data elements. Several sample photos for our research on the denoising process are shown in Figure 9 [40].Efficiency metrics like PSNR and SSIM, as well as the processing time among several layers, can be used to assess the suggested method's efficiency for the dataset's test pictures. Quantitative evaluation is not necessary to determine the level of vision [41].Figure 10 offers an instance of the aesthetic appearance as a result. We collected the PSNR and SSIM findings from different neural network algorithms [42] in Table 1.It is possible to check a collection of test photos by deleting artefacts and unwanted text from the actual noisy pictures [43]. Figure 9 displays the database's precision and degradation through the teaching and examination stages. Poor quality of sight measurements are provided by the MLWT technique when dealing with poor-intensity and irregular pictures [44].The image in Figure 10(c) was cleaned using the MLWT approach from chaotic-wavelength pictures. Further artefact issues with hazy information appeared in electronic pictures, widening the area of attention.Figure 10 displays the results of denoising house pictures. The pristine picture produced by our suggested approach is shown in Figure 10(d) below. Very few artefacts remain after the expanding operation in Figure 10(b) photos [45]. Figure 11 displays the specific PSNR and SSIM measurement values for MLWT, our suggested approach, DnCNN, and FFDNet. Our suggested approach successfully eliminates undesired information from the chaotic [46] bandwidth, which is Metrics of efficiency PSNR and SSIM
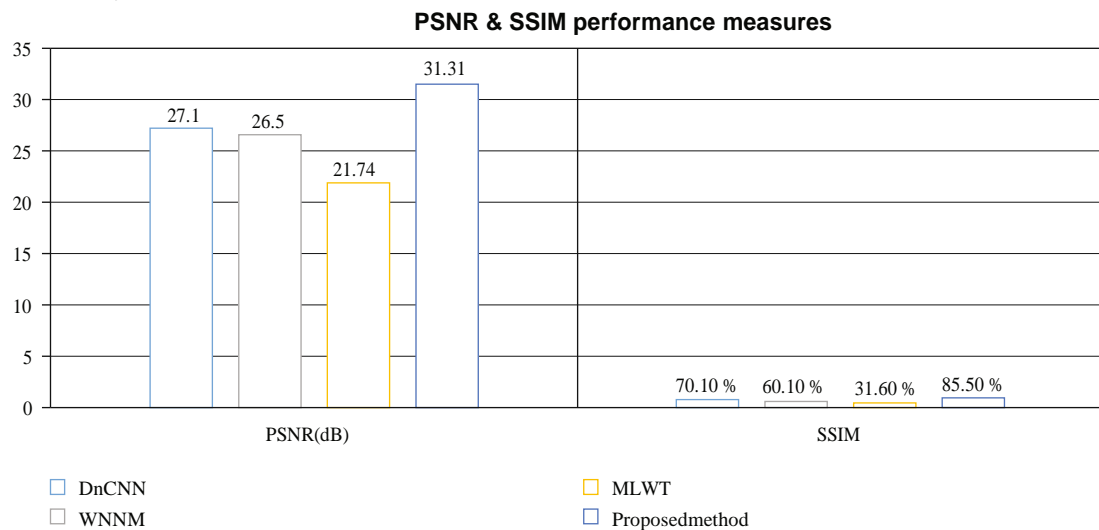
PSNR & SSIM performance measures

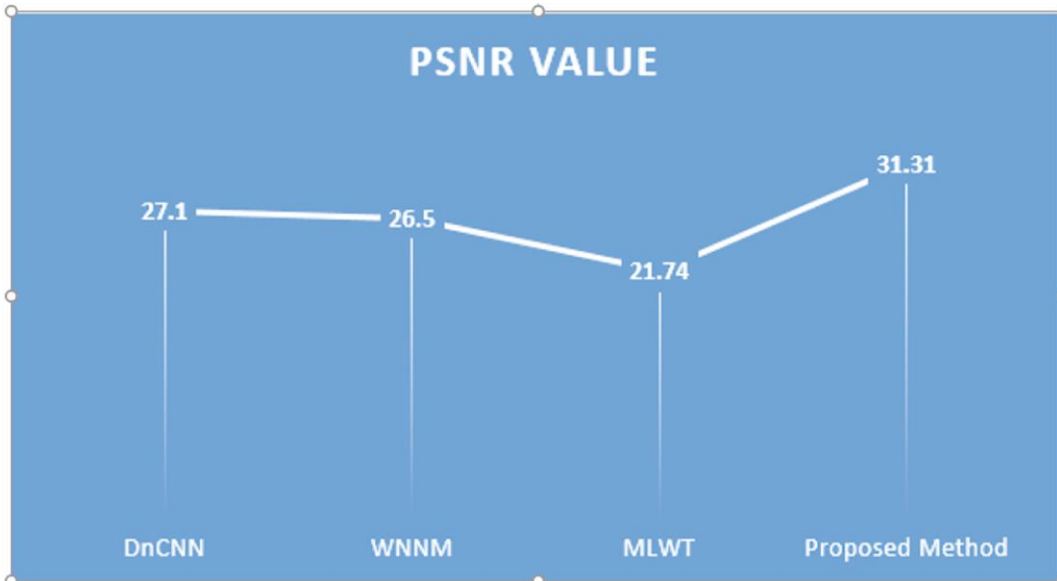**Figure 11: shows an analysis of the suggested and actual algorithms**

Figure 12: Compares the proposed technique via PSNR with the MLWT

Displayed as a function of the PSNR number in Figure 12. As a result, our suggested technique is suited for noise reduction processes on digital pictures with minimal brightness and extremely high dimensionality [47]. In our suggested technique, a convolution process is performed to obtain attributes from the photos. Although our method is used for saving data with a larger storage range, encoder methods reduce the size of the images produced so that they can be kept in RAM with fewer resources [48]. Figure 13 shows that our suggested method is very reliable and long-lasting when it looks good and has a higher PSNR value than MLWT and other methods [49]. The technique of deep learning is employed with an automatic encoder that uses chaotic spectrum information to recreate pristine images [50]. The resulting photos are calibrated. Highest ratio of signal to noise and structurally comparable metrics to determine the level of visual indicators in the pictures. The effectiveness of noise reduction can be evaluated using statistics for:

$$PSNR(x,x) = 10.log_{10}\left(\frac{255^2}{\|x-x\|_2^2}\right) \tag{12}$$
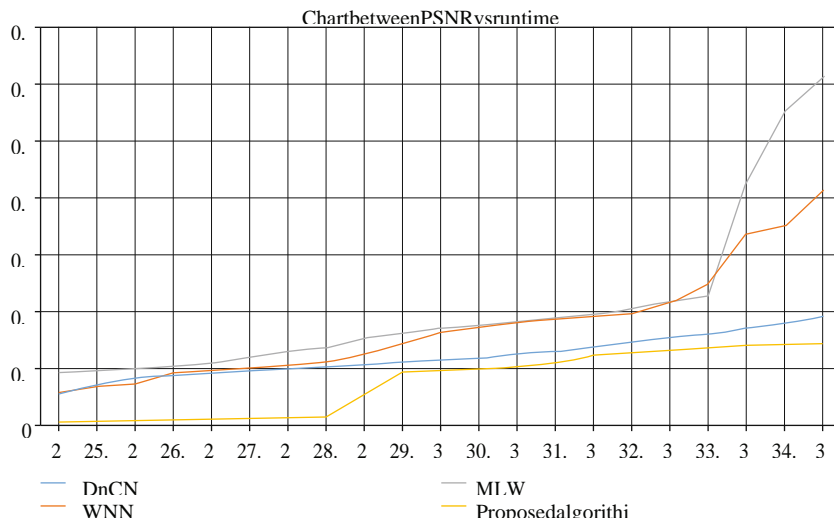
Figure 13: Shows a graph of the proposed technique's PSNR versus latency in seconds

The structural similarity index (SSIM) is additionally computed by

$$SSIM(x,x) = \frac{(2\mu_x\mu_x + c_1)\,(2\sigma_{xx}+c_2)}{(\mu_x^2+\mu_x^2+c_1)(\sigma_x^2 + \sigma_x^2 + c_2)}, \qquad (13)$$

where C1 and C2 are variables, x and x are the average, x and x are the range, x and x are the variability, and x and x are the correlation. In our tests, a desktop computer with an Intel Core i5-4570 CPU running at 3.2 GHz and 16 GB of storage executed the entire suggested method.

- The Information Obfuscation Phase. Phase 1's goal is to handle the private information that DO/DU provides and prevent improper use of that data. The CSP will conceal any entered details and then record them in a collection of files when the user provides the necessary details in step 1 of the process. Since all of the customer information that may be relevant to intimate, organisational rules, or document exchange is given the shape of obfuscated information on the online server aspect, this is the stage that arises in the majority of the stages that have been stated below. This stage is present in several of the previously listed stages.

    Step 1 is to send data.

    Second stage: CSP obfuscates the data before saving it in the file.

    Phases 8 and 9 are associated with decoding and obtaining information from CSP. They also deal with obscuring and encrypting data. Obfuscation is also frequently used to safeguard information kept on cloud servers. The proprietor consents to the consumer's demand to verify the document collection after receiving it. The customer will have the option to obtain the document from the cloud in the following step. When this is done, the consumer may print and decode the attachment locally. At specific phases of the file, the deception and concealment procedures are normally always carried out. The period of time throughout which information will be stored that was obtained from the data set.

Conclusion

We have developed a simple yet efficient sorting method as a result of our investigation. On a digital picture that includes the dilation convolution operation, this approach has been tested. In summary, our technique addresses and reduces the issues of gridding impact in the noisy bandwidth, unlike the wavelet sorting denoising strategy, which is impossible to tackle and moderate this concern. The use of the method we suggested has the immediate effect of improving the perceived clarity of online photos. The auto encoder and neural expanded sorting technique are working together to solve low-level electronic picture denoising issues in a noisy area. For instance, for this tactic to work, it has to balance both methods. The dilation convolution method is employed to produce architectural data regarding the digital picture under examination when dealing with noisy images captured in the actual world. This means that the inflated convolutional sorting approach, when compared to other techniques, may produce a better value for PSNR while simultaneously requiring fewer hours to analyses the data. The final denoised photo has grown, and as a consequence, the overall appearance of digital photos has significantly improved. During every step of our extended test, we are using a range of databases, each of which allows us to demonstrate the aesthetic appeal of computer images. It is further discussed in the part titled "Results and Debate."

- Future Enhancement. Our suggested framework uses deep learning, so it's critical that it require more RAM storage capacity in order to be preserved. The optical drive of the machine might already be occupied by this space. The multidegradation procedure that the automatic encoder that we have suggested undergoes prevents it from being efficient at collecting real photos with noise. Additionally, it is not enough to respond to the authorized denoising effort, which was completed. It is not practical to employ the PSNR and SSIM measurements to assess the likelihood that digital images may have overly flattened out for causes that would be obvious. Some of the types of uses that could profit from an enhanced form of the technique that we have suggested are the processes of blind deconvolution and picture deburring. Additionally, it will be evaluated for high-degree graphical apps before being combined with neural network picture categorization to provide a comprehensive response.

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DIVISION OF WORK IN COVID TIMES:
A STUDY OF INDIAN MIDDLE CLASS FAMILIES

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ABSTRACT

In almost every part of the world women share a disproportionately larger share of domestic work. In middle class homes in India, some of this burden is shifted to paid domestic workers. The strict lockdown imposed in the wake of the first wave of the COVID-19 pandemic saw the sudden withdrawal of the services of paid domestic workers. This study on urban middle class families seeks to examine how domestic work is divided along the lines of gender and whether the increased burden of household chores was equally shared by spouses during the lockdown. It finds that while male participation in housework did increase, women bore the brunt of the increased work.

KEYWORDS: *Gendering of Work, Household Chores, Pandemic.*

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Introduction

The last decade of the twentieth century saw the expansion of research agenda in Geography and other academic disciplines to incorporate issues that are of interest to women. Feminist geographers have long argued that a complete understanding of Human Geography is not possible without an exploration of private space where a large part of our everyday lives are lived. Feminist research in the fields of economics and commerce has focused, among other things, on assessing the economic value of the contribution of women's unpaid labour to family and national income."Man for the field and woman for the hearth" is an old English saying, but it is an enduring and almost universal ideal. Under patriarchal ground rules, 'proper' feminine behaviour favoured the cult of domesticity for women, and traditionally, patriarchal societies have confined women's lives to within and around the physical space of home, and restricted their activities to the reproductive sphere. Many families today are no longer based on the male breadwinner-female homemaker model, and traditional family life has seen major reorganisation. Yet the gendering of roles remains largely unchanged, and while the activities of women outside the home have expanded, male involvement in the domestic sphere has not seen a proportionate change. This is true for almost every part of the world and India is among the countries where the participation of men in domestic work is the lowest. Women shoulder the bulk of responsibility for domestic work, sometimes with assistance from paid help. In middle class households, the participation of women in paid labour has largely been possible only because of the support of domestic helpers. Reallocation of domestic work to paid helpers does not challenge the traditional patriarchal arrangement, thus perpetuating gender inequality and class stratification. The strict lockdown imposed in the wake of the COVID pandemic saw a sudden withdrawal of this support from paid helpers. It is interesting to see how households coped with the crisis of sorts. This paper discusses the gendering of work and then examines how the everyday experiences of women and men changed during the lockdown, focusing specifically on changes in the distribution of responsibility for domestic chores and caregiving within domestic space.

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The stimuli for this study came from diverse sources. The sudden imposition of a lockdown resulted in the closure of schools and child care services, and the non-availability of paid help to perform household chores. Simultaneously, for most middle-class families the lockdown home also became the site for remunerative work, as office space shifted to the home. Juggling housework, paid work and childcare became a major challenge. This brought about a spate of posts on social media full of appreciation for the quantum of work women do at home on a regular basis. It also spawned a large number of jokes about men working at home, rather than from home. It was apparent that despite the increased participation of middle class women in paid work, unpaid work at home is still seen as the woman's responsibility. Male participation in domestic chores remains restricted to 'helping the wife', and still something to be joked about. It is also interesting to note that in the second wave no one suggested that the entry of domestic help be restricted. Another trigger for this paper came from the Malayalam film, 'The Great Indian Kitchen'. Directed by Jeo Baby, the film explores how in a patriarchal society, the woman has to take on responsibility for domestic work, whether she likes it or not. Attention was also drawn to housework and its value by the manifestos of all major political parties during the 2021 assembly elections in Tamil Nadu. Promises of payment, even pensions, for homemakers were made, triggering off a discussion on the value of women's work.

Objectives of the Study

The study has the following objectives:

- To examine how society has gendered work and how work is divided at home.
- To understand how middle-class households coped with the lockdown-induced increase in workloads at home.
- To see whether household chores were shared equally between spouses or whether the traditional gendering of domestic work continued to persist.
- To study the impact of increased workloads on the relationship between spouses.

Methodology

The study has used both secondary and primary sources. A review of literature published in books, journals, newspapers and popular newsmagazines has helped in understanding how patriarchal societal norms have allocated different types of work to women and men. It also reveals how the responsibility for housework is overwhelmingly shouldered by women.

The second part of the study is based on a primary survey conducted in April and May 2021 over social media by circulating a Google form. The questionnaire contained questions regarding the distribution of eight household chores before, during and after the lockdown. These chores were brooming, mopping, dusting, cooking, washing dishes, laundry, grocery shopping, and supervising children's schoolwork. The respondents were both male and female, and they were asked whether they felt that the burden of work had increased for them and their spouses. They were asked questions on their experience of doing additional household work and the effect it had on them individually as well as on their relationship with their spouses. Over a hundred responses were received. However, as the forms were circulated within the social circles of the authors, the responses were restricted to urban, middle class families. To begin with, the forms were circulated within the social circles of the authors and later snowballing led to increase in sample size. The respondents included both males and females, which has made it possible to compare their perceptions about sharing household chores. After responses were received, a matrix was made and tables were prepared. It was followed up by making comparative diagrams of male and female perceptions regarding distribution of work of household chores during the pandemic times. Thereafter, analysis of the responses was done with the help of simple statistical methods.

Review of Literature

This section is dedicated to the survey of extant literature on gendering of work, division of work among men and related aspects.

Gendering of Work

Women have worked within and outside the house, making vital contributions not just to family incomes, but also to national economies. However, their roles as wives and mothers have always taken precedence over all other roles, and domesticity and motherhood have been negatively appraised and considered unproductive work (Mitchell, 1986).Men, on the other hand, engage in productive labour,

mostly outside the home. There is no scientific basis for allocation of work on the lines of gender, yet gendering of work is a reality in almost all modern societies. However, anthropologists working among the so called primitive societies found that this was not the case among many of them. Rogers (1980) found that in some societies, men play a large part in nurturing children almost from birth. She also found an almost equal participation of women and men in activities like gathering, hunting and decision-making among the Mbuti pygmies. Mead (1949) had found division of work on the basis of age and status, rather than gender, among the Samoans. Gendering of work is, therefore, neither natural nor universal, but a feature of patriarchal societies.

In pre-industrial times, home was the site of all work and men identified with the home as much as women did. The home was the economic base for the family and men preferred to work independently rather than for wages. All members of the family participated in economic activities, with tasks being allocated on the basis of availability and convenience. No member could claim to be the breadwinner. It was only the privileged aristocrats and rich merchants who lived in homes that were spatially distinct from their workplaces. It was only in such families that women and children 'did not work'. A major change was brought in by the industrial revolution which ushered in the age of factory-based production in Europe. Men now began to go out to perform waged work in factories and returned to rest in a home that was run by the unpaid labour of their wives. Pringle (1992) believes that the wage labourer and the housewife became the typical figures of modern capitalism. Once this model of male breadwinner-female housewife became common in industrialised Europe, it spread to the rest of the world, replacing the relatively more flexible models that prevailed in pre-colonised, non-Western societies (Peterson and Runyan, 1993). Not only did 'work' move away from the home, the term work itself came to be redefined, and much of the labour rendered by women within the confines of their homes came to be designated as non-work as it did not bring with itself any remuneration.

Despite its widespread prevalence as an ideal, the male breadwinner-female housewife has at best been a middle-class reality. Working class women have always looked for work outside the home. They took up jobs as domestic workers in the homes of the more affluent classes, or in mills, factories and farms. Some supplemented family incomes by doing laundry or sewing. Lower middle class women, too, gradually began to work as teachers, nurses and clerks (Phillips,1992), - jobs that were extensions of the work they already did at home. Whenmale labour became scarce during wartime, all women were encouraged to work, at first until marriage, and then even afterwards. The Victorian 'angel in the house' did survive as an idea, "although increasingly with less wholehearted support" (Walczak, 1988) as rising costs of living made dual incomes a necessity. Also, many women were acquiring educational qualifications and skills that matched their male counterparts, and they were not ready to give up their jobs and careers even after marriage and motherhood.

Division of Work at Home

Many women today have expanded their spaces and roles to combine housework and childcare with paid work. The same cannot be said of men who see themselves as full-time workersbut not as full time fathers (Kivimaki, 1997). Men are allowed to care about without caring for, for women it is assumed that the two are the same (Mc Dowell and Pringle, 1992). Women are expected to take care of all household chores and care giving whether they have a job or not. This is infact seen as their primary role and their jobs and careers must fit in with their domestic responsibilities. They take breaks from work, work part time, and depend on family or paid help to cope with the dual burden. So while the barriers against women in paid employment have crumbled, the barriers against men doing housework have proved to be harder to overcome. For women, the home is a workplace, for men it is a place of relaxation. While husbands are competent to do all kinds of housework, their actual contribution is limited to lending a helping hand, that too when absolutely necessary. Their participation has increased in recent times, but it is not equal to that of wives. Study of housework was pioneered by Ann Oakley who found that on an average, housework which was exclusively allocated to women took 77 hours per week (Oakley, 1974). In another study Oakley (2002) found that women did seventy percent of the housework. While the contribution of women varied with factors like their employment status and number of children, the male contribution was constant at fifteen per cent, regardless of circumstances. Contrary to received wisdom, the introduction of technology has not made life easier for women. While new gadgets have made housework less backbreaking, they have made it more time- consuming (Chapman, 2004). For instance, while the washing machine may have reduced the physical labour associated with laundry, overall changes in lifestyle have increased the number of clothes to be washed, as garments are now

dedicated to specific activities. More complex lifestyles, increased spending power and more products to choose from have made even shopping a significant chore. Parenting styles have changed, with greater focus now on the emotional and mental development of the child. This means that children have to be taken to hobby classes and out-of-school activities, which takes away another chunk of time, usually from the mother's day. Cerrato and Cifre (2018) found that the division of household chores between men and women in Spain was unequal, producing work-family conflict. The recent report on gender equality in the European Union shows that domestic work, especially unpaid care, is still unequally distributed between women and men (EIGE, 2021).

The first attempt to study the allocation of household chores in India was made by Promilla Kapur (1970). She was keen to see whether "the married working woman (has) been able to make the necessary reconciliation and accommodation" to establish harmony at home, despite her dual role. She concluded that dual career marriages could be successful only if the woman did not expect the husband to share responsibility for domestic chores. Rana (1998) found that in middle-class Bengali households in Kolkatta, husbands did share some chores at home when the wives were in paid employment, but their contribution was marginal. In a study in Chennai, Malathy (1993) found that as women's wages increased, they devoted less time to housework and leisure and more to childcare. Talwar (1984) found similar results in her study in Jodhpur, observing also that husbands and fathers made either no, or only negligible, contribution to domestic chores. More recently, the first-ever TimeUse Survey in India conducted by the Ministry of Statistics and Programme Implementation between January 2019 and December 2019 revealed that women spend 299 minutes doing housework while men spend only 97 minutes. It also showed that only 14% of men participate in unpaid care giving services, spending an average of 76 minutes a day, while the corresponding figures were 27.6% and 2 hours and 14 minutes for women (NSS Report, 2020).

Division of Work in COVID-19 Times

The imposition of a strict country-wide lockdown in March 2020 confined people to their homes. The services of paid workers that middle class families relied on to do domestic chores were suddenly cut off. The daily commute to work was replaced by a work-from-home culture. But for most people, working from home had to be combined with working at home, so a seemingly endless list of domestic chores was being completed while juggling with professional commitments. At the same time the closure of schools and day care centres created new demands on the time of parents of young children. Not everyone was complaining at first. The novelty of the experience, and the availability of family time was being celebrated by some, and social media was flooded with new recipes that were being tried out at home by women, men and children. Articles in newspapers soon enthusiastically heralded the arrival of the new Indian male who, having finally recognised the volume of work done by women to keep the house running efficiently, was now willing to share part of the burden (Narayanan, 2020, Sharma, 2020). On the other hand, there was a spate of cartoons and jokes on social media platforms (a few of which are shared below in Fig.1)which showed that attitudes towards male participation in housework remained unchanged.

Figure 1: A sample of Images Circulated on Social Media Platforms such as Whatsapp

Source:https://www.thenewsminute.com/article/misogyny-time-coronavirus-lockdown-can-sexist-jokes-stop-now-121316

YOU CAN CONFIRM FROM OFFICE;
IT'S WORK FROM HOME: AND NOT
WORK AT HOME ...! ——— RAJIV RAHATE———

Source: Whatsapp messages

Surveys conducted by research organisations showed that the lockdown had increased the burden of unpaid work on women. Based on a survey of 15000 women and 2300 men from low income households in ten states of India, a Dalberg study found that even in normal times, Indian women did three times more unpaid work than men, creating one of the highest gender gaps in the world. Although the pandemic had increased the burden of housework and carework for both men and women, the increase for women was greater than for men, irrespective of age and marital status (Dalberg, 2021). Deshpande observed a greater male contribution to household chores during the lockdown and was enthused that the "relapse by men was not complete" after the lockdown (Deshpande, 2020). However, in a subsequent study she found that while there was an increase in time spent by men on housework in April 2020 as compared to December 2019, by December 2020, "the average male hours had declined to below the pre-pandemic levels, whereas women's average hours had increased sharply" (Deshpande, 2021).
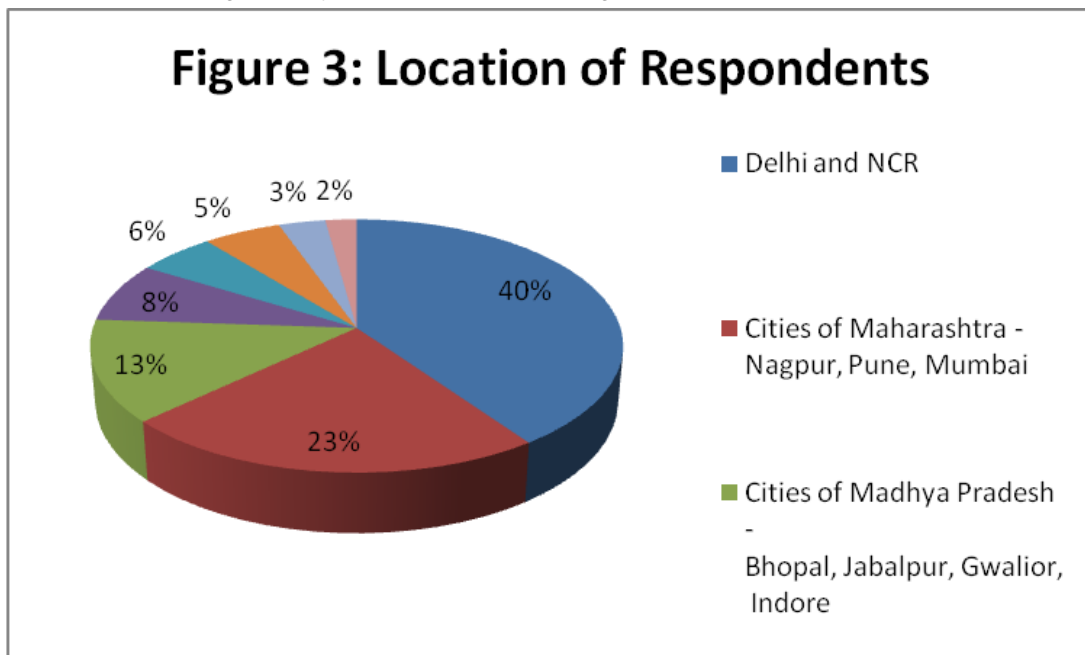
Results of Present Survey

The 100 participants in the present study include both male (73%) and female (27%) respondents (Fig.2). As the questionnaire was circulated through digital media, the proportion of both the genders could not be pre-decided. Responses were received from different parts of

## Figure 2: Gender of Respondents

27%

73%

■ Femal
e
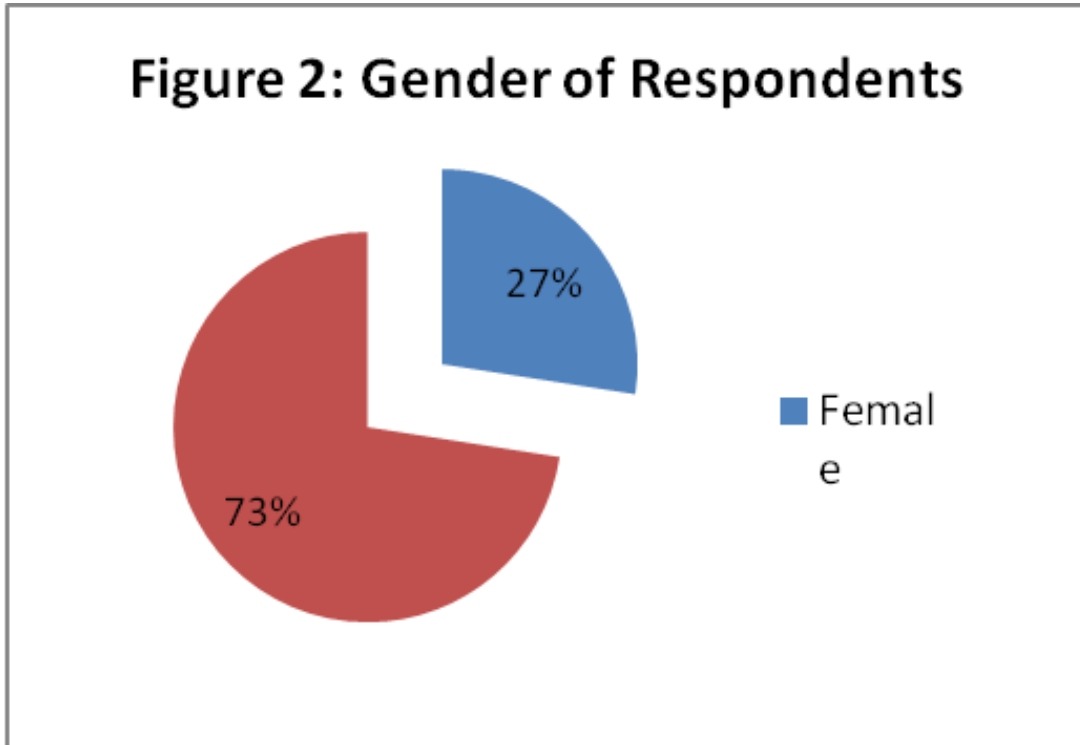
Source: Based on survey.

the country, including cities in the Delhi-NCR region, Mumbai, Pune, Nagpur, Ahmedabad, Surat, Bhopal, Indore, Varanasi, Bangalore, Hyderabad and Chennai (Fig.3).

Figure 3: Location of Respondents

■ Delhi and NCR

3% 2%

5%

6%

8%

13%

40%

23%

■ Cities of Maharashtra -
Nagpur, Pune, Mumbai

■ Cities of Madhya Pradesh
-
Bhopal, Jabalpur, Gwalior,
Indore

Source: Based on survey.

The global pandemic and the subsequent lockdown have brought profound changes in the everyday lives of people. One of the primary challenges was to adjust to the work-from-home culture while negotiating domestic chores without the help of paid helpers. The initial query made in the present survey was regarding the change in the amount of household work during the pandemic. Bothmale and female respondents believed that there had been a sea change in the amount of household work. 61% of the respondents felt that the amount of work had increased (Fig.4). 66% of the male respondents felt that they were required to do more housework during the lockdown, as compared to 54% of female respondents. This was because women were already contributing to housework in pre-pandemic times while men felt compelled to share some of their burden only during the lockdown.
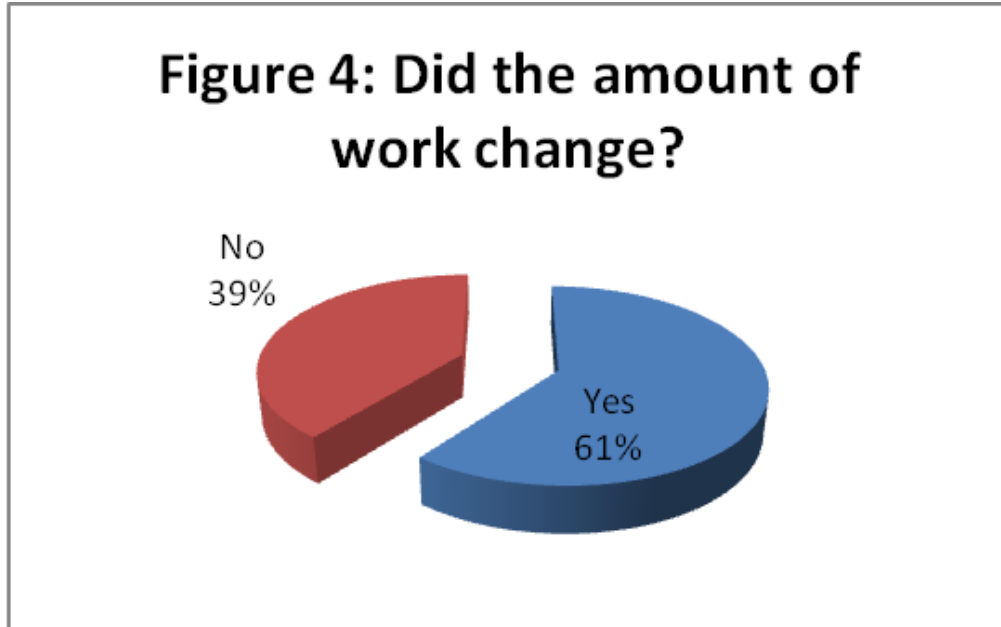
Source: Based on Survey

As mentioned earlier, the reasons for the increase in the load of household chores for respondents during the lockdown was the non-availability of the services of domestic helpers. Secondly, the presence of all the family members at home throughout the day increased the volume of work. The disruption of normal routines had to be factored in. There were additional demands on the time of parents of school-going children as a lot of school work needed to be done at home.

The respondents who felt that there had been no change in their share of household chores had a variety of reasons for this experience. Some of them were living alone and were already doing all domestic work themselves. Among other reasons were small family size, pre-existing work sharing practices and presence of live-in domestic helpers. Out of the total male respondents, 47% said that there has been no change in their workload due to lockdown. Mr. Mathur and Mr. Gaur explicitly stated that they did not share household chores as either their family size was small or all work was taken care of by their wives. In one of the cases where the family size was large, the female members of the household collectively shouldered the workload of household chores. On the other hand, 53% of male respondents felt that their contribution to housework did increase because of the lockdown. However, some of them did enjoy the experience of sharing housework. As Mr. Anoop said, "It helped understand the complexities of household work and appreciate my spouse's contribution to household management ". Likewise Mr. Chaturvedi said "It was a good experience to learn new things and spend more time with my family. I got ample time to know more about my kids, their hobbies, likes and dislikes, and enjoyed the opportunity of looking at things from their point of view. Overall it was a great experience where I explored my talent at various activities and gained a lot of confidence."

As for the female respondents, only 15% felt that the lockdown had brought no change in their workloads. Some of these respondents had full-time domestic helpers who continued to provide their services even during the lockdown. Some others were full-time homemakers and coped with the

additional housework with some help from other members of the family. 85% of the female respondents reported an increase in the burden of household chores. While a majority described it as a positive experience, they did feel that it was physically taxing.

Thus the initial query regarding the change in the quantum of household chores has elicited a differential response from male and female respondents. Some male respondents did participate in household work and shared some chores. 53% of them reported an increase in their burden as against 85% of the female respondents who experienced an increase in the household work burden.

Division of household chores: Did gender matter?

This section focusses on the distribution of some household chores among family members before, during and after the lockdown. It needs to be pointed out that in the following analysis, particularly in the graphs, the word male is used for the man of the house, and female is used for the lady of the house. Figure 5shows that brooming was a task primarily allocated to domestic helpers prior to the lockdown (60% of all households). In households where this task was not assigned to paid help, it was done by the wife. In certain exceptional cases, such as when the male lived alone, this chore was done by men. During the lockdown, a major shift was necessitated because of the non-availability of domestic help. In homes that did not have full-time paid help (almost 70% of homes) this chore became the responsibility of the wife (40% homes) and husband (30%). Post-lockdown, the return of domestic helpers saw a sharp decline in male participation in sweeping the house to pre-lockdown levels. There was a decline in women's responsibility for this task too, but it remained significantly above pre-lockdown levels. Interestingly, 40 to 45 % of the male respondents reported that they shared responsibility for brooming the house while 50 to 55% said that the task was the responsibility of their wives. On the other hand, 80% of the female respondents said that brooming was their responsibility, while only 20% said that it was their husbands who did this job.


Figure 5: Brooming as a Household Chore
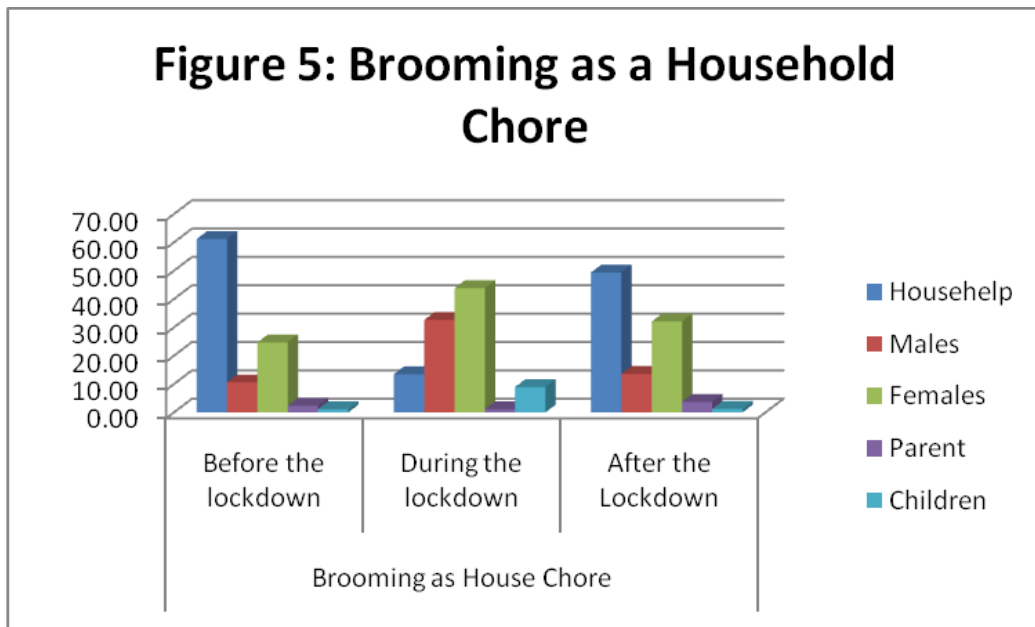
Source: Based on survey

In the case of the task of mopping too the picture is almost the same as in the case of sweeping. Figure 6 shows that prior to lockdown, mopping in most homes was done by domestic helps. As soon as the lockdown was imposed, husbands (30%) and wives (40%) had to take responsibility for the task. In a few households, responsibility for mopping the house was taken up by children. In the post-lockdown stage male participation in mopping quickly declined to the pre-lockdown levels. Female participation declined too, but remained higher than before. This clearly shows a greater burden on wives rather than husbands. Once again there is a noticeable difference in how male and female respondents perceived the extent of their role in mopping the house in relation to that of their spouse.
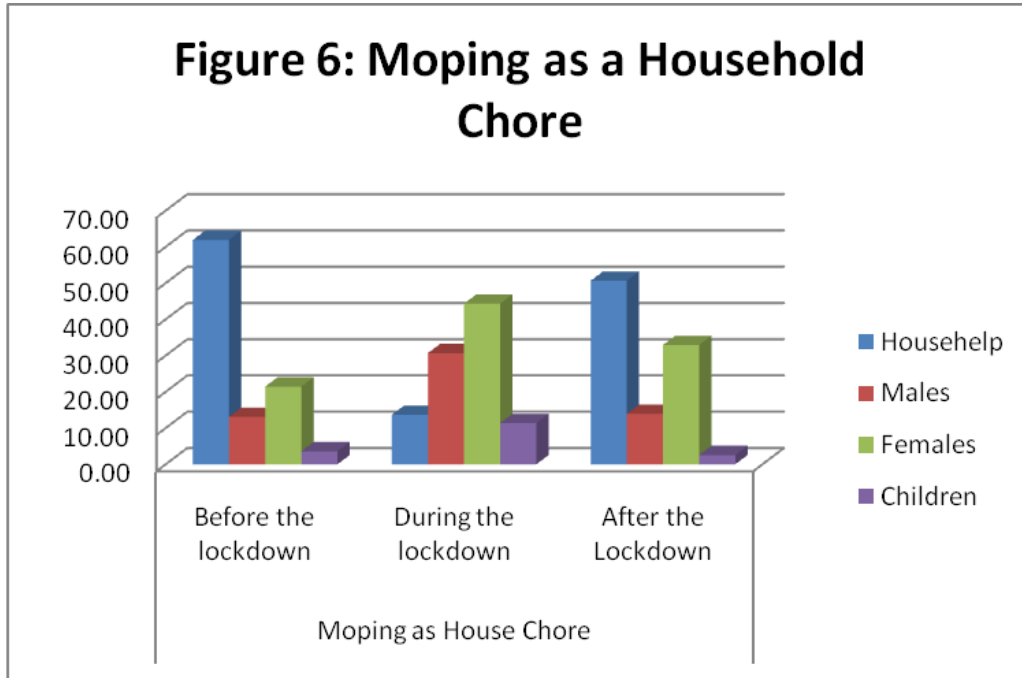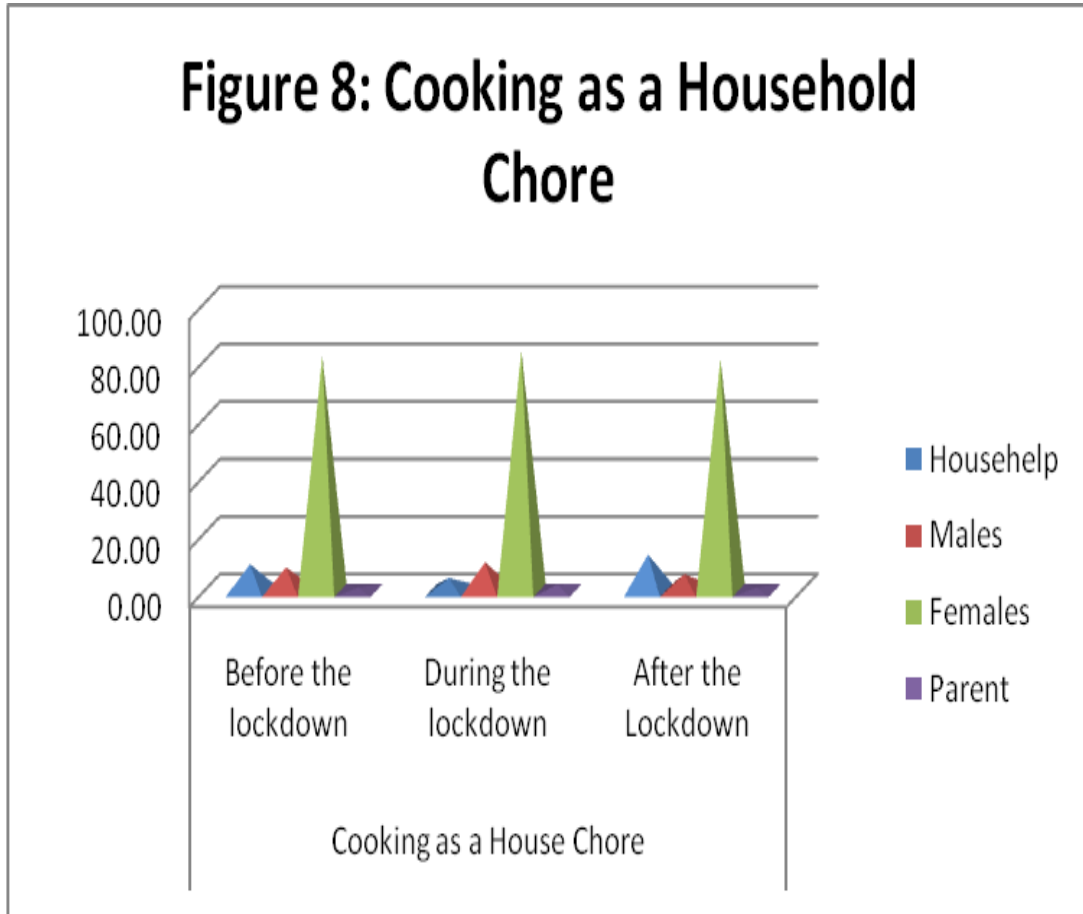
Source: Based on survey

Dusting is another routine domestic chore that is usually done once a day. Here again the contribution of male and female members of the family increased with the imposition of the lockdown and its withdrawal showed a quick return to the previous situation (Fig. 7). The percentage of male contribution to dusting went from 10 to 20 and then 15 before, during and after the lockdown. The corresponding figures for women were 35, 50 and 35. Notably, dusting is a chore in which children contributed to the greatest extent. Overall it can be concluded that women contribute more towards keeping the house clean regardless of the situation.
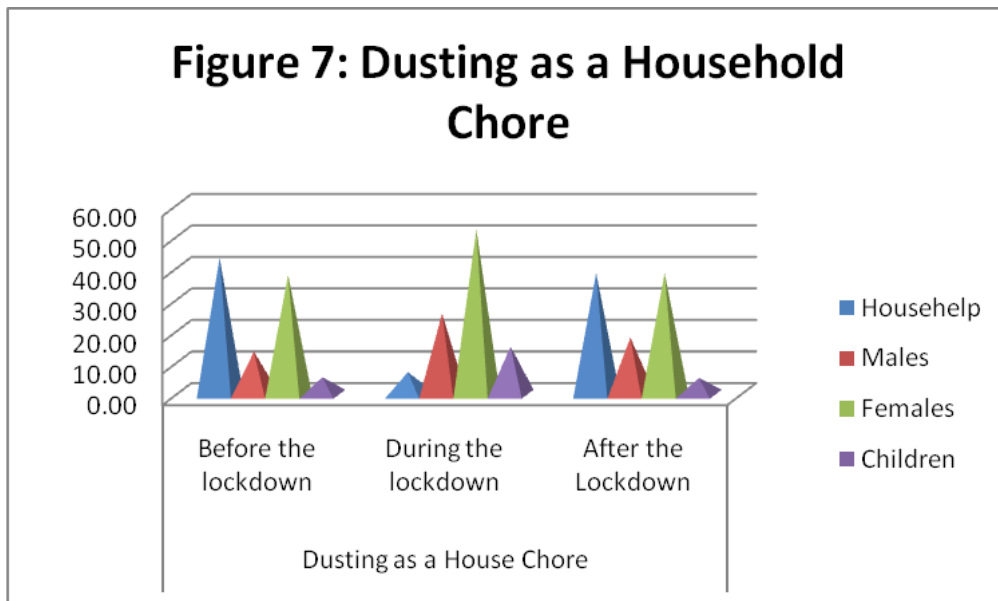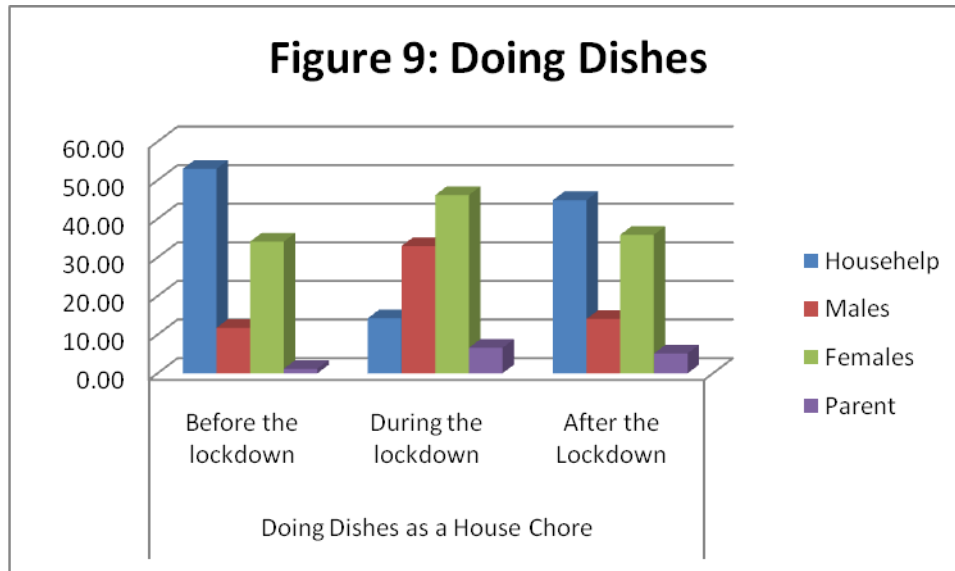

Source: Based on Survey

Cooking is a task that has traditionally been considered as women's domain. Popular sayings, such as "*aadmi ke dil ka rasta uske pet se ho kar guzarta hain*" (way to a man's heart is through his stomach) implies that women should be adept at cooking in order to keep their husbands happy. This is amply reflected in Figure 9, that clealry shows that cooking was mainly done by women before, during and after the lockdown. Both male and female respondents confirmed that cooking was consistently done by women in 90% of the households. The participation of domestic workers in this activity was rather limited, whatever the situation. It must be pointed out that cooking is the most essential of all household chores and needs to be done multiple times every single day. It makes heavy demands on the time and energy of women in every home. Despite numerous recipes being shared on social media by men, male participation in this area has been almost nil.
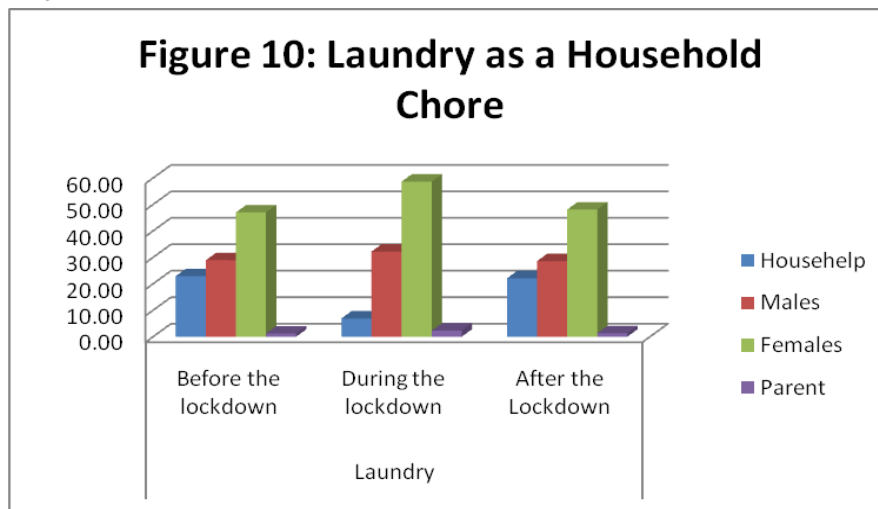

Source: Based on Survey

Like cooking, washing dishes is also a task that is done multiple times during the day. Figure 9 reflects the perspective of both the male and female respondents about their role in doing dishes in pandemic times. This is a task that has been shared most evenly by male and female members in the house during the pandemic. Before lockdown, it was largely assigned to the house help, with women chipping in occasionally whenever need arose. In only 10% households did men wash dishes prior to the imposition of the lockdown. During the lockdown, male participation increased to more than 30%. However, in 40% of the households, this was an additional burden shouldered by women. Nearly 70% of the male respondents suggested that they washed dishes but responses of women indicated that the role of men in washing dishes was only 10% and 70% of it was done by women. Noticeably, children in 15% of the households participated in washing dishes during the lockdown whereas their participation had been negligible before the lockdown.
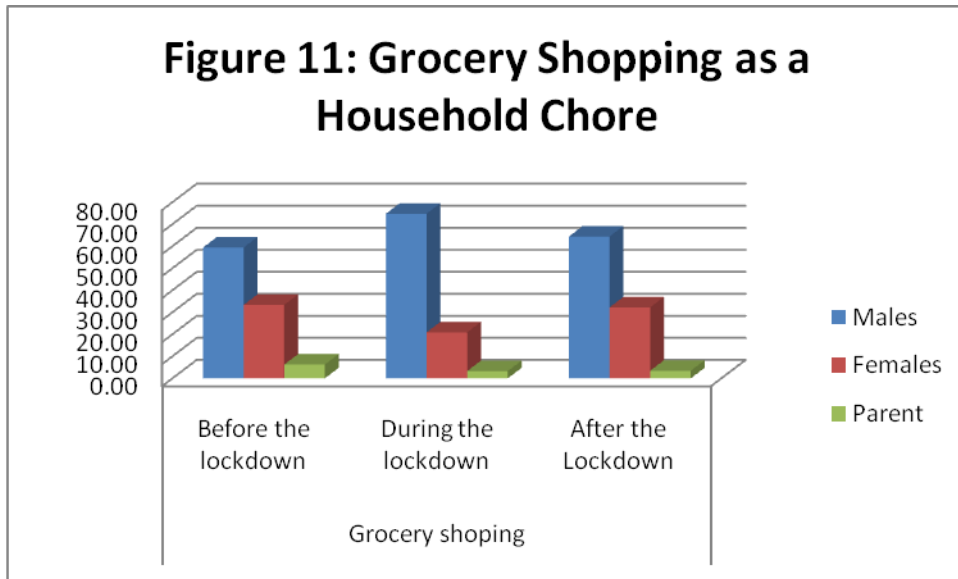
Source: Based on Survey

Laundry is another chore the responsibility for which rests overwhelmingly on women. Although most middle class homes possess washing machines, laundry still requires time and effort. Figure 10 clearly shows that in the absence of paid help, the task of doing laundry fell on the shoulders of women. The percentage of households where women did the laundry increased from 40% in the pre-lockdown times to nearly 60% during the lockdown. Male participation in this task registered only a marginal increase during the lockdown.
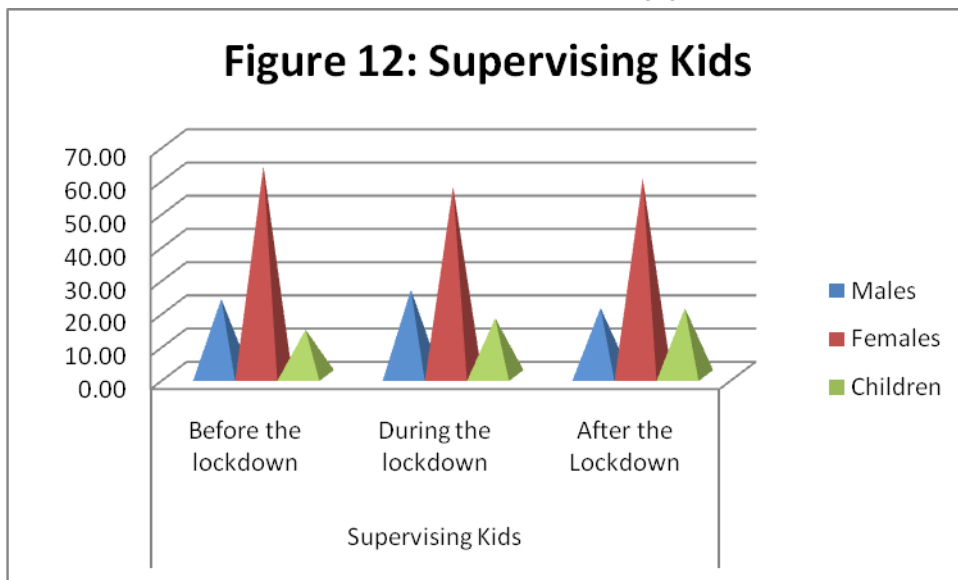

Source: Based on Survey

Unlike most other household chores, grocery shopping is one area where male members have made the largest contribution. This may have to do with men preferring to exercise control over the family expenses, and also their greater mobility in public spaces. Both male and female respondents confirm that men share greater responsibility for grocery shopping in all situations. The differential in male and female responsibility for grocery shopping increased drastically to 30% during the lockdown. This could be seen as men taking greater risk while seeking to protect their families from contacting the infection.

Source: Based on Survey

The traditional association of women with child care is reaffirmed by the study. Figure 12 clearly shows that with or without the lockdown, women have to shoulder the responsibility of supervising children in an overwhelming majority of the households. Some of the burden of supervising children did shift from women to men during the lockdown, but status quo was restored soon after the lockdown was relaxed. It is also interesting to note that male and female respondents have perceived male contribution to this task a little differently. While more men believe that they share this responsibility with their wives, women respondents believe that male contribution to this task is negligible.
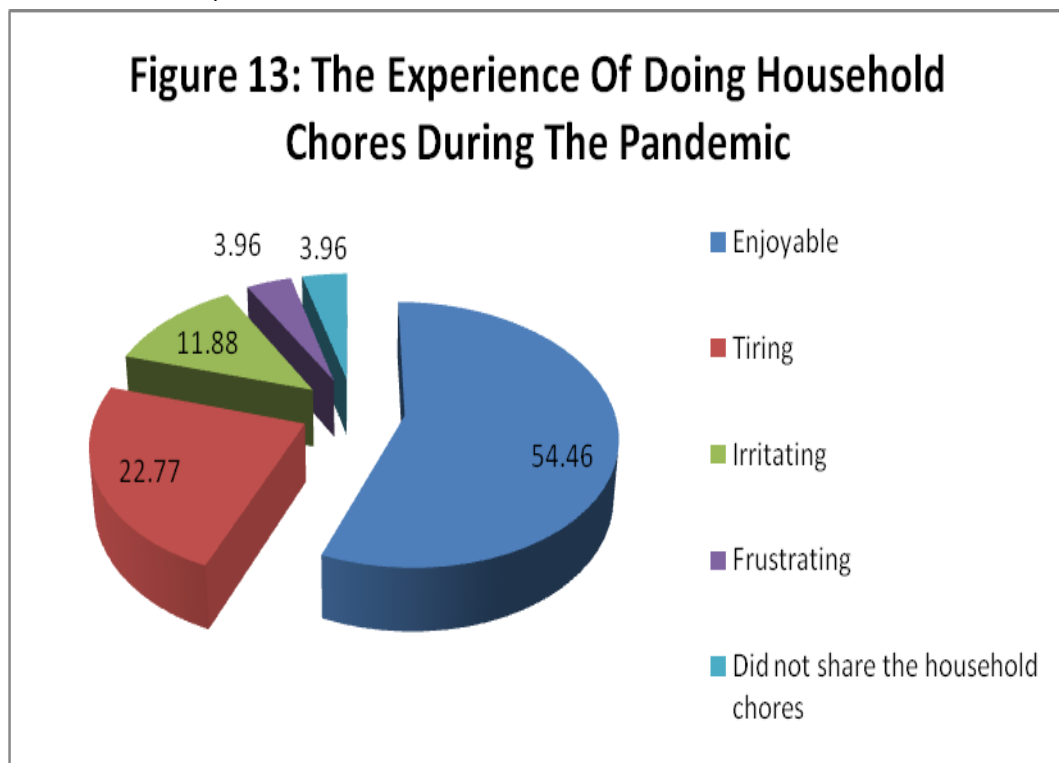

Source: Based on Survey

This section on division of household chores brings out very clearly that during the lockdown men did share the burden of housework to some extent. The sharing of work was found to be greater in selected household chores such as cleaning the house and doing dishes. Yet the overall burden of completing all chores was substantially greater on women than men. It may be concluded that the traditional association with unpaid work at home remains unchanged. The burden of housework on

middle class women has reduced as it has been transferred to paid workers (usually working class women) and not to the men in the household. Men chipped in only when paid help was not available. Of the household chores addressed by this study, women shouldered greater responsibility for all but one (buying groceries). It is evident that women do most of the time consuming and physically demanding chores. In most households, the inequality in distribution of chores between women and men has been reduced when work is transferred to paid helpers. This ensures that patriarchy is not challenged and the class divide too remains intact.

Effects of Increased Workloads

The study shows that though the lockdown increased the workloads of a majority of respondents, they have largely found the experience to be positive. 55% of the respondents described the experience as being enjoyable (Fig.13). The pleasures brought by increase in family time perhaps outweighed the burden of increased workload. The novelty of coping with household chores as a family added to the joy. Another 23% found the experience positive yet tiring since the work burden had multiplied in the absence of paid help. Only 20% of the respondents found the experience to be irritating and frustrating. This may have been because of the difficulty in balancing their professional commitments with the increased pressure of work at home. The lack of cooperation from other family members may have worsened the experience.

Figure 13: The Experience Of Doing Household Chores During The Pandemic

- Enjoyable — 54.46
- Tiring — 22.77
- Irritating — 11.88
- Frustrating — 3.96
- Did not share the household chores — 3.96

Source: Based on Survey

More than 70% of the respondents believed that sharing household chores with their partners had a positive effect on their relationship. The respondents did mention that it was the increase in family time that made the experience of doing extra household chores pleasurable. Ms. Kapoor, a respondent from Delhi, felt that the lockdown had a positive impact as "it strengthened family ties and brought cooperation among everyone. It was like an extended picnic for us." Another respondent, Mr. Bathe, a resident of Varanasi said "It rationalised the distribution of burden among family members and this is the key to success." For some others, the experience was slightly different. As one of the respondents, Ms. Mendiratta, said "Well it was tiring most of the times...but there was no hustle…cooking was the one thing which all of us enjoyed the most. Things were in our hands. The house was better managed and there was no dependence on outside help."

Figure 14: Effect Of Managing Household Chores On The Relationship
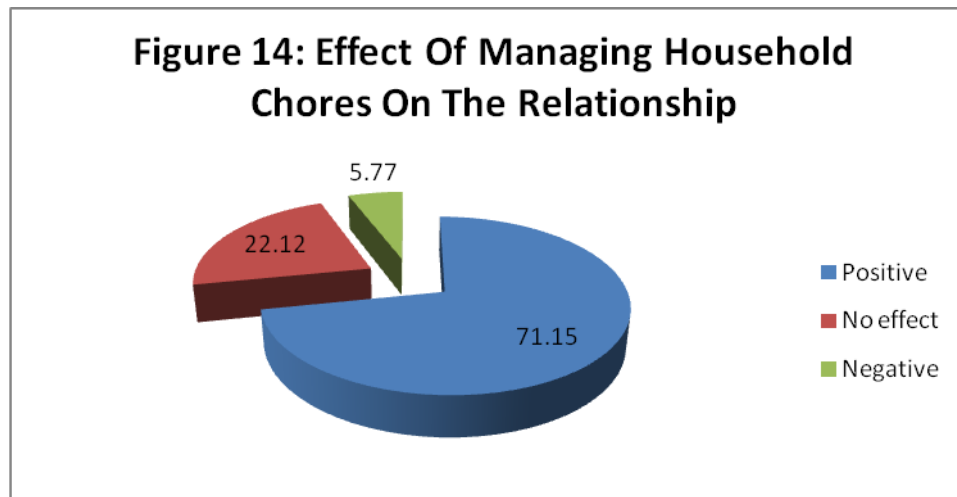
Source: Based on Survey

23% of the respondents believed that there was no effect on their relationship while a very small proportion of the respondents, that is 6%, believed that this experience had a negative effect on their relationship. Thus, overwhelmingly, the sharing of household work during the lockdown has had a positive effect on family relations.

Conclusion

The study shows that under patriarchy, the responsibility for housework remains largely on women. With increasing participation of women in paid work, the male contribution to housework has increased, but the division of work is far from equal. Middle class women rely heavily on the services of paid domestic workers. When the services of paid helpers become unavailable, as was the case during the COVID-induced lockdown, the work had to be reallocated among members of the family. Despite what appears on social media, the reality is that women bore the brunt of this increased workload. Men did increase their contribution to housework, but their participation remained selective. Their greatest contribution was to shopping for groceries, a task that needs to be done once in every few days. They also helped with cleaning the house, but once again, this is a chore that can be skipped once in a while. On the other hand, women had responsibility for chores like cooking and supervising children, which are tasks that need to be done everyday and consume a huge chunk of a person's time. It is also interesting to note that as soon as paid help became available due to relaxation in lockdown-related restrictions, male participation in household work registered a steep decline. It is clear that the pandemic that forced the world to adapt and innovate in so many ways could not shake the deep-rooted foundations of patriarchy.

The current study verified this phenomenon for urban middle class families. The results could help understand the sociological aspects of Indian society. The study shall give direction to policy makers to design communications aiming to change the mindset of the society. The economic implications for policy makers could be in terms of assigning monetary valuation to the contribution made by both men and women in the house hold chores.

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HOUSEHOLD MANAGEMENT: THE ADVENTURES OF A WOMAN

Ms. Neelam Mehta*

ABSTRACT

When we examine human history, one of the things that we discover is that the family unit was the first really structured organization. There is no exception to the fact that all organizations need capable management, and the family unit is not one of them. Women are the primary decision-makers in the vast majority of households throughout the whole world. Over the course of the last two centuries, management has emerged as an independent academic discipline in its own right. The field of study that is now known as management was formerly referred to as business management since its primary concentration was on the administration of firms. Over the course of time, not-for-profit organizations and other types of organizations started to profit from the application of management theory. Without competent management, it is difficult to accomplish one's aims. Although this subject is seldom discussed in the academic literature on management, the family unit, just like any other organization, has goals that need to be accomplished in order to be successful. The established ideas of commercial management have been used as a point of comparison in an endeavour to improve the area of household administration via the usage of analogous linkages. Examining the functions and responsibilities of housewives has often been the focal point of the study known as "Household Management." It is not exactly stretching the truth to refer to her as a "Household Manager."

***KEYWORDS**: Household Management, Lady of the House, Household Manager and Business Management.*

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Introduction

The family unit is the first example of an unwritten organisational structure. The members of the family come to an informal consensus on the division of labour. There must be a leader at the top of any organisation who can settle any conflicts that arise. Women are the unofficial heads of most households across the globe, with just a small minority of males holding this position.

A womenfolk directly, provide the groundwork for strong families and communities; indirectly, they help shape the next generation into self-assured, motivated, and responsible members of society. She teaches the kids good habits and values that will become ingrained in their character and serve as a road map for their development into moral adults. It's a long list. As a result, she has the honorific "(गृहिणी- घरजिसकाऋणी)". Every member of the household owes something to the matriarch.

The term "housewife" is often used to refer to a woman who does not work outside the home, however technically this term covers both housewives and women who do work outside the home."I am a stay-at-home mom," she said. This is an often used and repeated statement. All the women are harmed by this since they provide so much to the family.

Since I'm a stay-at-home mom, I never go out of the house. "A Housewife and a Working Woman are the Same Thing". Please refer to a female household member as a Domestic Goddess or Household Manager instead of a housewife.

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Women's unseen impact on the country's economic growth has yet to be measured. Womenfolk play a crucial role in the smooth operation of their households. Consider the cost if we had to hire outside help for basic housekeeping and management tasks. It would be quite expensive for us. Then we'd know how crucial women are to the smooth running of a home. Without women's contributions (such as cooking, cleaning, and raising children), families would likely collapse (imagine if woman went on an extended strike or became ill).

Every member of the family benefits from a woman's ability to make them feel desired and cherished. She makes it easy for her partner to relax and grow as a person, which in turn helps him succeed in life. He is free to focus on his profession and make the necessary strides in it. She is a welcome haven and source of comfort for the elderly. In a very real way, she is a child's first trainer. Patience, tolerance, responsibility and management qualities are essential for any of these occupations. Now more than ever, she juggles several responsibilities. She serves as the wife, mother, and daughter-in-law, as well as the housekeeper, chef, and manager.

Household Management

Effective management is essential to modern living. It's inevitable in the human condition. Each person has to be taught how to adapt to his shifting surroundings by consistently choosing the best choices in the here and now. This may be accomplished via the practical application of management skills learned in school or through experience. Management is an art, for sure, since it's about getting things done in the most efficient and effective way possible. There is currently no widely acknowledged formal body of knowledge defining the ideas and principles of house management. The term "Household Management" refers to the practise of keeping one's home in order and supervising important household operations via the use of either learned skills or learned wisdom.

Whether we are a unitary family or a joint family, we all share in the responsibility of running the household. However, in most homes, the female head of the household, or "Household Manager," is responsible for a portion of these tasks as well. It's not only about doing the laundry, cleaning the kitchen, making dinner, etc. Womenfolk are the most skilled group of people, however they are the finest example of unpaid managers. They possess outstanding traits that are lacking in even some of the so-called world's best business school graduates and most successful businesspeople. Here are some traits that you may expect from every homemaker.

- **Manage time:** womenfolk are the best and most efficient at this. Despite their many obligations, they are masters of time management. They get up early, make breakfast, get the kids ready for school and work, delegate tasks like washing dishes and clothes and keeping the garden tended to servants, go grocery shopping, spend time with family in the evening, and cook dinner before retiring for the night. A well-organized home-maker-manager may do a lot in a day's time.

- **Training human resources:** To get the most out of their resources, home-makers invest time and energy into training and coaching their resources. A home-maker must instruct the maid on proper meal preparation and cleaning procedures, as well as general household protocol. A homemaker must also guarantee that the milkman, gardener, cleaner, etc., operate as quickly and efficiently as possible.

- **Handle financial affairs:** Homemakers are among the most capable people in handling household budgets. They share in the family income and are responsible for contributing to the upkeep of the home. All of these things must be done in addition to saving significantly for the future, as well as purchasing basic food, paying wages for workers, providing presents for visitors, and fixing any home equipment. Therefore, every cost is carefully deliberated over and executed.

- **Plan for the future:** Every manager is trained to think forward and plan their professional course. Homemakers do the same thing, considering the long-term and short-term good of their families and acting appropriately.

- **Waste management and high Operational efficiency:** The ability to effectively manage resources to reduce waste while increasing efficiency is a crucial management tool. Homemakers are responsible for minimising waste in all areas of the household, including this one.

- **Crisis management:** Managing a crisis is one of the most difficult decisions that a company must make. Homemakers are also subject to a wide range of emergencies that need swift action and decisiveness. A sudden illness in the family, accidental damage to the home or automobile, etc., are all instances of such contingencies. All these cases call for prompt action that may hasten the discovery of a satisfactory resolution to the situation.

The world must see that moms and other women in the primary roles of the home are the "best managers"!

Family management responsibilities can be better managed when categorized in the following heads and supervised accordingly:

- Home & Property
- Food
- Family & Friends
- Finances
- Special Events
- Time & Scheduling
- Self-Management

All the above are managed by the lady of the house by applying her inherent natural talent.

The household management in its formal format can be expressed as follows:

The household's money, domestic assistance, health, special occasions, and crises; the kitchen and pantry; the care and education of children; connections inside and beyond the family; the upkeep of the home; Taking care of the household's grocery needs, regular bills, etc.

To a considerable part, a homemaker's managerial competence, interest, and leadership qualities, as well as her or her capacity to encourage family members in the appropriate path for accomplishing desired objectives, determine how well the house is managed. Knowing how to run a household efficiently and effectively is a valuable skill for every homemaker.

Review of the Literature

It was in Mrs. Isabella Beeton's 1861 book "The Book of Household Management" that the phrase "Household Management" was first used. In this book, she mostly talks about how to run a kitchen. It is much more than a cookbook; it has all the information a newly-wed would need to confidently take on housework, including what kitchen tools to buy, how to clean everything, what servants to have, what to look for in hiring them, how to raise children, and how to treat common childhood illnesses. Paragraphs detailing the many edible plants and animals are interspersed with images of them in their natural settings throughout the book.

'Household Management' was first defined by Maria Parloa in 1880 to describe anything required to be done inside the home. First Principles of Household Management and Cookery: A Textbook for Schools and Families was a book she contributed. Managing home funds was emphasised more than any other facet of domestic organisation.

One of the most recent books on domestic management is "Introduction to Home Management," written by Dr. (Lt.) Sandhya Rani Mohanty and released in 2016. When it comes to running a home, everything is covered. It aims to synthesise the existing canonical literature on the topic and provide a methodical framework for understanding the principles and their applications, particularly as they pertain to the administration of domestic responsibilities.

Experts in the area helped Dr. Mohanty define "home management," and he cites them here: Godjousson, Gross & Crandall; Kotzin, Nickel & Dorsey; RP Devdas.

"Household management is in all countries, the most common occupation employing the most people, handling the most money, and of fundamental importance for the health of the people," said Godjousson.

"Home management," as defined by Gross and Crandall, is "using what you have to get what you want."

"Home management is a practical science," Mr. Kotzin, an authority on the subject, says. Having some level of success in managing a household indicates competence. A well-managed house is one where the residents are happy with their lives overall.

The definition of "home management" offered by Nickel and Dorsey reads, "planning, controlling, and evaluating the use of family resources to achieve family goals."

In her last comments, Dr. Mohanty explains that good household administration increases the likelihood of success by facilitating the homemaker's intelligent use of family resources to accomplish predetermined objectives.

Mr. RP Devdas, a well-known management theorist, provides an engaging account of management at home. He drew a parallel between water storage at home and a dam and the resources available. All of a household's resources, both human and inanimate, are like rainwater that collects in a dam before being used for things like flushing toilets, powering appliances, and watering crops when they're needed. They are used for housing construction, kid's college tuition, weddings, and other life events. He draws the conclusion that effective household administration requires cooperation among family members in setting goals, developing strategies, dividing up tasks, and allocating resources. Management skills, passion, and the ability to inspire family members to work towards a similar objective are all required of the homemaker in this context. A well-run household is one in which the homemaker has developed sufficient skills to pursue certain ends. When she does them, it makes her happy. A homemaker provides for her family, as a consumer, and as an organiser of the many tasks necessary to attain the family's objectives. She keeps the household running smoothly so that everyone is happy and the family can reach its objectives.

The authors of the book An Introduction to Family Resource Management (Premavathy Seetharaman, Sonia Batra, and Preeti Mehra, 2005) emphasise the significance of proper resource management. The family uses its resources to guide its decision-making towards its stated aims. Making decisions is useless if there aren't enough resources to back them up. It's important to allocate funds so that everyone in the household is happy. In management, decisions and the most efficient use of resources are essential for success in getting the job done.

Author Kim Brenneman's 2017 book "Home Management: Plain & Simple" emphasised the importance of the home as a location for more than just living. It's a safe haven where kids may grow up and their families can find support and friendship. The laundry monster, clutter and cleaning requirements, baby and kid care, food planning and mealtime routines, trips into town, bill payments, and so much more are just a few of the challenges that arise from managing a busy home. Practical and logical, this guide provides detailed instructions, simple suggestions for improving household efficiency while still honouring God and strengthening family bonds, and much more. To make the finest days even better, the authors of "Home Management: Plain and Simple" divide the demands of family members from the chores of daily life.

Methodology

It is chosen to conduct a critical analysis of the existing literature in this field in light of the researcher's constraints and the relative unfamiliarity with the subject matter.

In order to accurately reflect the demographic diversity of the Jodhpur district, we shall conduct a survey of 100 randomly selected households. The sample size was chosen at random with just the researcher's convenience and comfort in mind.

The purposive random sample will pick up the households of different characters namely;

Urban households

- Joint families
- Unitary families

Rural households

- Joint families
- Unitary families

A schedule of Questions was prepared for the survey. The members of the selected Household were interviewed face to face to get the desired details with help of Schedule of Questions. Primary data so obtained were processed and analysed. The following conclusive observations were obtained.

Sample Profile

Urban Families (50)	Rural Families (50)
Joint Families 14	a. Joint Families 44
Unitary Families 36	b. Unitary Families 06

Urban Joint Families (14)	Rural Joint Families: (44)
Total number of family members: 168	Total number of family members: 968
(per family on an average 12 members)	(per family on an average 22 members)
Males : 84	a. Males: 352
Females: 56	b. Females: 308
Kids (< 18): 28	c. Kids (< 18): 308

Urban Unitary Families: (36)	Rural Unitary Families: (6)
Total number of family members: 216	Total number of family members: 48
(per family on an average 06 members)	(per family on an average 8members)
a. Males: 108	a. Males: 18
b. Females: 72	b. Females: 12
c. Kids (< 18): 36	c. Kids (< 18): 18

Total Urban Females: 128	Total Rural Females: 320
in Joint families: 56	in Joint families: 308
in Unitary Families: 72	in Unitary Families: 12

Household Managers in Urban: 64	Household Managers in Rural: 50
Joint Families: 28	Joint Families: 44
Unitary Families: 36	Unitary Families: 06

- In all 100 families were surveyed. 50 families from Urban Areas and 50 families from Rural Areas.

- In Urban Areas 14 families were Joint Families and 36 were Unitary Families.

- In Rural Areas 44 families were Joint Families and only 06 families were Unitary.

Urban Joint families had on an average 12 members per family whereas Urban Unitary families had on an average 06 members per family. Average size per family in urban areas was found to be 7.68 or 8 Members.

Rural Joint families had on an average 22 members per family whereas Rural Unitary families had on an average 08 members per family. Average size per family in Ruralareas was found to be 20.32 or 20 Members.

Total Urban Females were 128 (in Joint families: 56 + in Unitary Families: 72) and the Household Managers were 64 in all; in Joint Families: 28 (2per family) and in Unitary Families: 36 (one per family).

Total Rural Females were 320 (in Joint families: 308 + in Unitary Families: 12) and the Household Managers were 50 in all; inJoint Families: 44 (1per family) and in Unitary Families: 06 (one per family.

In urban areas in Joint families Two Females were decision makers (though their areas of responsibility were found to be specific in some cases and in many cases they were found to be overlapping and decisions were taken in consultation jointly) whereas in Rural areas One single lady is the final decision maker even if it is a Joint family.

Except in Joint families in urban areas; in rest families (unitary in Urban, Joint in Rural and Unitary in Rural) only single lady is found to be decision maker.

Only in 14 Joint families of Urban Areas rights and responsibilities were shared by two Ladies.

In rest 86 families one single lady enjoyed the rights to decide and were responsible for all the decisions in the areas she was allocated to; they varied in Urban and Rural areas.

Lady of the House : Household Manager

Urban (Joint Families) 28	Rural (Joint Families) 44
Urban (Unitary Families) 36	Rural (Unitary Families) 06
64 Urban household managers + 50 Rural household managers = 114	

In all 114 Household managers were interviewed and it was found that:

Conclusive Observations

Household managers (ladies of the house) in urban areas were found to have a moderate level of literacy, and in most instances they were discovered to be Graduates.

Most rural Household Managers (Ladies of the House) were either illiterate or merely somewhat educated; only a small percentage were college graduates.

There was no correlation between the level of education the Household Managers (Ladies of the House) had and the quality of the judgments they made while discharging Household Responsibility and running the day-to-day operations of the household.

In rural households (whether joint or unitary), the Lady of the House was solely responsible for Kitchen Management, but in urban households, 22% of unitary families shared the responsibility, and 5% of joint urban families had other family members assist in discharging kitchen duties.

When it came to Stores Management, all rural families relied on their male members to bring in supplies from the market, while in 40% of urban unitary families, males shared the responsibilities of procurement and only 12% of urban joint families had males do so.

The lady of the home handled all of the day-to-day maintenance of the apartments. In 90% of instances in rural regions, but in 68% of cases in urban areas, women fulfilled this task in joint families, and in 43% of cases in unitary households. In the remaining instances, men fulfilled this role. However, the men in the household are responsible for handling the majority of the repairs and upkeep.

Women handle all aspects of child care in rural regions and joint families in metropolitan areas, while men participate in this task in the 50% unitary households that make up the rest of the city.

The heads of households in rural areas do not participate in the education management of their children, but in urban joint and unitary families, this duty is divided evenly between the males and females.

Ninety percent of women in both rural and urban regions maintain connections inside and between their own families. Rarely do both men in the household share this duty.

The woman of the home is usually given the authority and responsibility to handle the majority of the household's day-to-day financial matters, including the payment of bills and the accumulation of savings and investments. This is true for both suburban and rural families. This function is seen quite differently when considering women in the workforce. When it comes to saving and investing decisions, they have a significant voice. In rural places, the opinions of women are not given much weight, even if they are working outside the home.

The household's matriarch is expected to oversee the household's finances and ensure that everyone's physical needs are met. She does this by making sure that she, along with the rest of the family, has access to the proper nutrition and conventional supplements. She care the family,she is most concerned with the well-being of the young and the old. When someone in her family needs medical care, she usually defers to an older sibling or cousin who has more experience dealing with the country's healthcare system.

A Word to Conclude...

In essence, a homemaker provides for her family in several ways: as a producer, consumer, and organiser of numerous tasks. Management skills, passion, and the ability to inspire family members to work towards a similar objective are all required of the homemaker in this context.

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E-BANKING: A STUDY ON URBAN CUSTOMERS

Dr. Arun Mondal*

ABSTRACT

Urban customers avail e-banking facilities more than traditional banking. Highly educated customers prefer e-banking more than moderately educated customers. Bank depends on modern technology to provide e-banking facilities to the customers. Urban customers face difficulties in availing e-banking facilities due to poor infrastructure. Urban customers avoid e-banking due to security threat. The inclination of customer towards e-banking has increased in recent years as the transaction cost of e-banking is less than traditional banking. The customers can avail e-banking services through internet. The study is based on primary and secondary data. Primary data has been collected from the urban customers of West Bengal. Secondary data has been collected from journal articles. In this paper, an attempt has been made to find out the impact of e-banking on urban customers.

***KEYWORDS**: Bank, E-banking, Urban Customers, Primary and Secondary Data.*

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Introduction

Urban customers prefer e-banking in recent years as they can avail the banking facilities without visiting bank branch. E-banking provides banking services to the customers with the help of internet. Bank emphasizes on customer satisfaction to gain customer loyalty. Bank delivers e-banking services to the customers with the help of modern technology. Banks adopt advanced technology to provide e-banking facilities properly. Customers of urban areas prefer e-banking more than rural areas. Urban customers prefer e-banking more than traditional banking. Highly educated people avail e-banking more than traditional banking, Bank emphasizes to increase the habit of e-banking among customers as the cost of e-banking is less than traditional banking. Private sector banks provide better e-banking facilities than public sector banks. Bank employees should be properly trained so that they can provide e-banking services appropriately to the customers. Many people avoid e-banking as they are not aware about e-banking facilities. Bank provides high quality e-banking services to customers to survive in the competitive environment of banking sector. The objective of the study is to find out the impact of e-banking on urban customers.

Literature Review

Bank managers should emphasize on the quality of service to increase the level of customer satisfaction (Kampakaki and Papthanasion, 2016). Banks are not able to provide e-banking facilities properly to the customers due to poor internet service (Jindal, 2016). Banks are compelled to deliver e-banking services with the view to survive in the banking industry (Santhiya and Saravanan, 2018). Many employees of banks have inadequate knowledge about e-banking services (Singhal, 2017). Banks are able to deliver the e-banking facilities to the customers due to development of technology (Zafar et al., 2011). Increased competition and current technological development has compelled the banks to emphasize on customer satisfaction (Cabanillas et al., 2013). E-banking depends on modern technology to deliver banking services to the customers (Balogun et al., 2013). Many customers avoid e-banking due

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to security threat (Prasad et al., 2019). Customer satisfaction depends on the quality of e-banking services (Madavan and Vethirajan, 2020). E-banking is also known as home banking, online banking, phone banking, virtual banking, personal computer banking (Kumari and Chattoraj, 2020). E-banking provides the opportunity to the customers to conduct wide range of financial transactions (Faisal and Tayachi, 2021). Banks emphasize to enhance customer loyalty by increasing the level of customer satisfaction with the help of modern technology (Suleiman et al., 2012). Banks deliver several types of e-banking services such as mobile banking, door step banking, phone banking (Arya, 2019). Bank provides high quality e-banking facilities to enhance customer loyalty (Saravanan and Leelavathi, 2020). The transaction cost of e-banking is less than traditional banking (Hada, 2020). Banks provide e-banking services to the customers due to increasing competition in banking sector (Sikira, 2021). Digital revolution in banking sector has compelled the banks to provide technology based services to customers (Mansuri, 2021).

Methodology

The study is based on primary data and secondary data. The primary data has been collected from the urban customers of West Bengal. The sample size of the study is one hundred. 70% of the respondents area male and 30% of the respondents are female.

Data Collection and Data Analysis

Private banks provide better e-banking facilities than public banks :

Agree   :   82%

Disagree   :   18%

82% of respondents agree and 18% of respondents disagree.

Urban customers avail e-banking more than rural customers :

Agree   :   95%

Disagree   :   05%

95% of respondents agree and 05% of respondents disagree.

Bank employees are not properly trained :

Agree   :   56%

Disagree   :   44%

56% of respondents agree and 44% of respondents disagree.

E-banking saves the time of customers :

Agree   :   89%

Disagree   :   11%

89% of respondents agree and 11% of respondents disagree.

Customers suffer due to poor infrastructure of bank:

Agree   :   88%

Disagree   :   12%

88% of respondents agree and 12% of respondents disagree.

Urban customers prefer e-banking more than traditional banking :

Agree   :   63%

Disagree   :   37%

63% of respondents agree and 37% of respondents disagree.

Conclusion

Urban customers prefer e-banking more than traditional banking as they can avail banking facilities easily through internet. The e-banking service quality of private banks are better than public banks. Urban customers prefer e-banking more than rural customers. Bank employees must have proper knowledge on e-banking. Urban customers suffer due to poor infrastructure of bank. The inclination of urban customers towards e-banking has increased in recent years.

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मनरेगा योजनाओं के कार्यों का विश्लेष्णात्मक अध्ययनः राजस्थान के अजमेर जिले के सन्दर्भ में

दिनेश कुमार मुरारी*

सार

महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार गारंटी अधिनियम (मनरेगा) ग्रामीण भारत में समावेशी विकास के लिए एक शक्तिशाली साधन बन गया है। भारत जैसे विकासशील देशों में दो मुख्य समस्याएँ हैं गरीबी और बेरोजगारी, ग्रामीण लोग बेरोजगारी और गरीबी से सबसे ज्यादा पीड़ित हैं। ग्रामीण क्षेत्रों में लोगों की आजीविका सुरक्षा बढ़ाने के उद्देश्य से भारत सरकार द्वारा मनरेगा योजना शुरू की गई है। इस योजना में प्रत्येक ग्रामीण परिवार को रोजगार की गारन्टी व प्रतिष्ठापूर्ण जीवन जीने के अधिकार को साकार करने की कोशिश की जाती है। इस योजना का मुख्य उद्देश्य 'हर हाथ को काम और हर काम को दाम' है।

शब्दकोशः मनरेगा, जॉब कार्ड, प्रदर्शन, रोजगार, कार्यक्रम, ग्रामीण।

प्रस्तावना

महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार गारंटी अधिनियम (मनरेगा) भारतीय सरकार की नौकरी की गारंटी की योजना है। यह ग्रामीण जीवन को सीधे छूने वाला भारतीय सरकार का एक प्रमुख कार्यक्रम है। यह अधिनियम 25 अगस्त, 2005 को अधिनियमित किया गया था और यह अधिनियम 2 फरवरी, 2006 को लागू हुआ। यह अधिनियम प्रत्येक ग्रामीण परिवार जिसके वयस्क सदस्य अकुशल शारीरिक कार्य करने को इच्छुक हों, प्रत्येक को एक वित्तीय वर्ष में 100 दिन का काम देकर काम के अधिकार की गारंटी देता है। अतरू मनरेगा योजना के ठीक से क्रियान्वित होने पर निश्चित ही आर्थिक एवं सामाजिक सुधार हो सकता है। यह अधिनियम प्रारंभ में 200 जिलों में अधिसूचित किया गया था, जो योजना का प्रथम चरण कहा जा सकता है, सन 2007–08 में इस योजना में 130 अतिरिक्त जिलों को जोड़ा गया। जो लगभग 330 जिलों तक पहुँच गई। जो योजना का द्वितीय चरण था। इस तरह सभी शेष बचे हुए जिलों को तृतीय चरण के अन्तर्गत 4 अप्रैल 2008 को जोड़ दिया गया था। ताकि देश के सभी ग्रामीण परिवारों को रोजगार मिल सके। इस प्रकार यह योजना सन 2009 में देश के 619 जिलों में लागू हुई जो भारत के ग्रामीण परिवारों की 25 फीसदी आबादी को रोजगार उपलब्ध कराती है। 2 अक्टूबर 2009 को प्रधानमंत्री डॉ. मनमोहन सिंह ने इस योजना का नाम परिवर्तित करके 'महात्मा गाँधी' राष्ट्रीय ग्रामीण रोजगार गारन्टी अधिनियम कर दिया है। मनरेगा कार्यक्रम अधिकार आधारित दृष्टिकोण है। मनरेगा योजना देश के ग्रामीण क्षेत्रों में रहने वाले प्रत्येक परिवार के वयस्क सदस्यों को वर्ष में न्यूनतम 100 दिन के लिए रोजगार प्राप्ति का कानूनी अधिकार देती है लेकिन प्रत्येक ग्रामीण वयस्क व्यक्ति को रोजगार की मांग करनी होगी। मांग करने पर ग्राम पंचायत लोगों की अर्जी का पूरा अध्ययन कर 15 दिनों के भीतर काम उपलब्ध करवाने का कार्य करती है

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*   शोधार्थी, जय नारायण व्यास विश्वविद्यालय, जोधपुर, राजस्थान।

लेकिन काम मांगने पर भी काम नहीं मिलता है तो मजदूरी भत्ता दिया जाता है इसके अलावा काम उसके निवास स्थान के 5 किमी. परिधि के दायरे में होना चाहिए। अगर ऐसा नहीं होता है तो अतिरिक्त मजदूरी उपलब्ध करवाई जाती है। राष्ट्रीय ग्रामीण रोजगार गारन्टी योजना का उद्देश्य ग्रामीण क्षेत्रों में रहने वाले व्यक्तियों की आर्थिक व सामाजिक स्थिति को मजबूती प्रदान करना है ताकि देश का प्रत्येक परिवार भूखा न सो सके। मनरेगा योजना बेरोजगार ग्रामीण व्यक्तियों के लिए रोजी–रोटी कमाने का आसान जरिया है जिसके द्वारा ग्रामीण परिवेश में रहने वाला प्रत्येक व्यक्ति रोजगार की मांग करके अपनी आजीविका को सुदृढ़ कर सकता है।

महात्मा गाँधी राष्ट्रीय ग्रामीण रोजगार अधिनियम (मनरेगा) तथा मनरेगा योजना समता मूलक विकास, महिला–पुरुष समानता तथा सामाजिक सुरक्षा का एक साधन है जिसने समाज के सबसे उपेक्षित वर्गों को प्रभावी रूप से लक्षित किया है जिनमें महिलाओं को, अनुसूचित जातियों व अनुसूचित जनजातियों को आवश्यकतानुसार 100 दिनों का रोजगार उपलब्ध करवाता है। इस तरह मनरेगा योजना के तहत गाँव में स्थायी परिसम्पतियों या बुनियादी संरचना के निर्माण पर जोर दिया जाता है जो लोगों के जीविकोपार्जन में मदद करता है भारत जैसे देश में जहाँ लाखों लोग गरीबी एवं बेरोजगारी से जूझ रहे है। उनके लिए मनरेगा योजना एक महत्वपूर्ण योजना है।

साहित्य की समीक्षा

सेठ नवनीत (2015) का अध्ययन–भारत में मनरेगा के क्रियान्वयन पर आधारित है। इन्होंने इस योजना को ग्रामीण समाज के लिए एक शक्ति प्रदान करने वाली योजना बताते हुए कहा है कि ये योजना देश के विकास व पूँजी निर्माण में सहायक है परन्तु इस योजना के सकारात्मक प्रभाव के साथ–साथ नकारात्मक प्रभाव भी दिखाई देते है। अन्त में कहा है कि मनरेगा योजना ग्रामीण क्षेत्र में रोजगार, आय–स्तर, उच्च–जीवन स्तर बढ़ाने, परिसम्पत्तियों के निर्माण में सहायक होने के साथ–साथ कई प्रकार की कमियाँ भी है।

सैलो नगुर्थाजुअली व सिंह भारतेन्दु (2015) ने मिजोरम के कोलासिब जिले में मनरेगा का अध्ययन किया है इनके द्वारा इस विषय पर अध्ययन करने का उतद्देश्य–कोलासिब जिले में मनरेगा योजना द्वारा किए जाने वाले कार्यों का अध्ययन करना व मनरेगा के प्रभाव से घरों की स्थिति में परिवर्तन का पता लगाना है। इस प्रकार अन्त में यह बताया है कि मनरेगा योजना लागू होने से लोगों को समय पर काम मिलने लगा है और काम मिलने से ग्रामीण पहले से बेहतर जीवन यापन कर अपना व अपने परिवार का गुजारा करने में सक्षम हुए है। और जॉब कार्ड के माध्यम से रोजगार की मांग भी सरलता से करने लगे है।

कल्पेश भाई टी पटेल (2015) का अध्ययन–मनरेगा पर शोध पत्र पर आधारित है इसमें बेरोजगारी, जनसंख्या, श्रमिक, शब्दों का उपयोग कर ध्यान केन्द्रित किया है और इस विषय पर शोध करने का उद्देश्य– एक वित्तीय वर्ष में मिलने वाले रोजगार दिनों को जानना, मजदूरी की राशि उचित समय पर मिलना, योजना के लागू होने के पश्चात् लोगों का पलायन पर प्रभाव, लोगों की जागरूकता जानना, ग्रामीणों की सहभागिता का पता लगाना इत्यादि कार्य पर रखा है तथा सारांश के रूप में यह बताया है कि यह योजना ग्रामीणों को 100 दिन का रोजगार उपलब्ध करवाने में असमर्थ रही है परन्तु भारत सरकार इस योजना के विस्तार पर समय–समय पर ध्यान दे रही है।

पामेचा, डॉ सुमन व इन्दु शर्मा (2015) का अध्ययन – मनरेगा का सामाजिक अर्थव्यवस्था पर प्रभाव राजस्थान के डूँगरपुर जिले के 20 गाँवों में होने वाले फायदों पर आधारित है। इन्होंने अपने अध्ययन में बताया है कि मनरेगा योजना न केवल रोजगार उपलब्ध करवाती है अपितु आर्थिक वृद्धि में भी सहायक है इसलिए इन्होंने डूंगरपुर जिले की ओर ध्यान केन्द्रित करते हुए बताया कि डूंगरपुर एक ऐसा जिला है जहाँ लोग मानसून की कमी के कारण कृषि न कर पाने से बेरोजगार रहते है ऐसी स्थिति में मनरेगा योजना वरदान है। इस तरह मनरेगा योजना डूँगरपुर क्षेत्र में रहने वाले ग्रामीणों के जीवन स्तर को उच्च बनाने के लिए कार्य कर रही है।

गौड़ (2016)– ने अपने शोध में ये कहना चाहा है कि हमारी केंद्रीय सरकार के अनुसार मनरेगा एक विशाल योजना है इसमें गाँव के गरीब मज़दूरों और अकुशल व्यक्तियों को रोजगार मिलता है।

डॉ अशोक व डॉ महेश कुमार (2016) के अध्ययन का विषय– मदुकराय ब्लॉक, कोयम्बटूर तमिलनाडू में महिला लाभार्थियों के विशेष सन्दर्भ के साथ, मनरेगा अधिनियम के प्रभाव का अध्ययन पर है इस विषय पर अध्ययन करने का उद्देश्य–महिलाओं को प्राप्त होने वाली मजदूरी का मूल्यांकन करना, संतुष्टि के स्तर को मापना, ग्रामीण महिलाओं पर पड़ने वाले प्रभाव व सामाजिक अर्थव्यवस्था में महिलाओं की स्थिति का पता लगाना है सारांश के रूप में बताया है कि मनरेगा योजना ग्रामीण महिलाओं के आशा के अनुरूप मजदूरी उपलब्ध करवाने में नाकाम रही है। जिसके कारण आर्थिक, सामाजिक विकास में कोई परिवर्तन नहीं देखा गया है।

अशोक कुमार एच (2016) का अध्ययन – कर्नाटक के मैसूर जिले में मनरेगा के प्रदर्शन पर आधारित है इस विषय पर अध्ययन का उद्देश्य मनरेगा की प्रगति व प्रदर्शन का पता लगाना, मैसूर जिले में कितने जॉब कार्ड का वितरण व रोजगार में कितनी वृद्धि हुई है इन सभी का अध्ययन करना है। इसके लिए तीन सालों के आँकड़ों के माध्यम से प्रगति को बताने का प्रयास किया है। इस प्रकार सारांश के रूप में बताया है कि मनरेगा योजना लागू होने से क्षेत्र में कई सकारात्मक परिवर्तन हुए है। जिसमें ग्रामीणों की आजीविका का स्तर पहले से बेहतर हुआ है। और लोग अच्छी व खुशहाल जिन्दगी गुजारने लगे है।

विज, जाटव, वरूआ एंव भट्टरायी (2017)– ने अपने शोध लेख में द्वितीयक आंकड़ों के आधार पर आंध्र प्रदेश एंव तेलंगाना में मनरेगा में महिलाओं की स्थिति पर प्रकाश डाला है इस योजना से प्रत्यक्ष एंव परोक्ष दोनों प्रकार के लाभ हुये है। दोनों ही राज्यों में महिलाओं को मनरेगा में कार्य करने हेतु प्रोत्साहित किया गया।

पंकज (2017)– ने अपने पत्र में यूपीए से एनडीए सरकारों में मनरेगा में होने वाली परिवर्तनों को बताया है। वर्तमान सरकार ने मनरेगा योजना निर्माण की ओर ध्यान दिया है।

अध्ययन के उद्देश्य

- पिछले तीन वर्षों में मनरेगा के प्रदर्शन का विश्लेषण करना।

- अध्ययन क्षेत्र में चयनित लाभार्थी की समस्याओं की पहचान करना।

- प्रदर्शन में सुधार के उपाय सुझाना।

मनरेगा की प्रमुख विशेषताएं

अगले भाग में मनरेगा योजना की मुख्य विशेषताओं पर चर्चा की गई है।

- ### पंजीकरण

प्रत्येक ग्रामीण परिवार जिसके वयस्क सदस्य अकुशल शारीरिक कार्य करने को इच्छुक हों, स्थानीय ग्राम पंचायत (जीपी) को लिखित या मौखिक रूप से पंजीकरण के लिए आवेदन कर सकते हैं। पंजीकरण के लिए इकाई एक घर है। अधिनियम के तहत, प्रत्येक परिवार एक वित्तीय वर्ष में 100 दिन के रोजगार का हकदार है।

- ### जॉब कार्ड

ग्राम पंचायत उचित सत्यापन के बाद जॉब कार्ड जारी करेगी, जॉब कार्ड पहचान व रोजगार पंजीयन का आधार होता है। प्रत्येक जॉब कार्ड में एक विशिष्ट पहचान संख्या होती है। जॉब कार्ड संख्या के विरुद्ध ग्राम पंचायत या ब्लॉक स्तर पर रोजगार उपलब्ध कराना होता है। जब भी काम शुरू किया जाता है तो लाभार्थी के जॉब कार्ड को कार्य के दिनों और किए गए भुगतान के साथ अद्यतन किया जाता है।

- ### काम के लिए आवेदन

काम मांगने के लिए लिखित आवेदन ग्राम पंचायत या ब्लॉक कार्यालय को देना होता है, ग्राम पंचायत रोजगार के लिए लिखित आवेदन की एक दिनांकित रसीद जारी करता है, जिसके विरुद्ध 15 दिन के अंदर रोजगार उपलब्ध कराने की गारंटी संचालित होती है।

- **बेरोजगारी भत्ता**

  यदि 15 दिन के अन्दर रोजगार उपलब्ध नहीं कराया जाता है तो राज्य लाभार्थी को बेरोजगारी भत्ता देगा।

- **कार्य का प्रावधान**

  कार्य सामान्यतः गांव में 5 किमी के दायरे में उपलब्ध कराया जाना चाहिए। यदि 5 किमी से अधिक दूरी पर कार्य प्रदान किया जाता है, तो परिवहन और रहने के खर्च के लिए 10 प्रतिशत अतिरिक्त भुगतान दिया जाता है । कम से कम 50 प्रतिशत लागत के संदर्भ में कार्य, ग्राम पंचायत द्वारा निष्पादित किये जाने हैं।

- **वेतन**

  वेतन का भुगतान राज्यवार किया जाता है। भारत सरकार मनरेगा की मजदूरी अधिसूचित करती है। मजदूरी का भुगतान दैनिक दर के अनुसार किया जाता है। इसका वेतन का भुगतान साप्ताहिक आधार पर किया जाना चाहिए, इससे अधिक नहीं। मजदूरी का भुगतान लाभार्थी के व्यक्तिगत/संयुक्त बैंक/डाकघर खाते के माध्यम से किया जाता है।

- **मनरेगा की प्रक्रियात्मक कार्यप्रणाली**

  मनरेगा के अंतर्गत नियोजन व क्रियान्वयन हेतु प्रत्येक पंचायत स्तर पर प्रधान होता है परन्तु संविधान के भाग-9 जिन स्थानों पर लागू नहीं होता वहां के समस्त कार्य राज्य सरकार द्वारा नियुक्त स्थानीय परिषदों/प्राधिकरणों द्वारा संपन्न कराये जाते है। मनरेगा की धारा 13 में योजनाएँ चाहे वे जिला, मध्यवर्ती और ग्रामस्तर की योजनाएँ हो मुख्य प्राधिकारी ही बनाती है। ग्राम सभा छोटी-छोटी परियोजनाओं की एक विकास योजना तैयार करती है और उसे मंजूर करके ग्राम पंचायत को भेजती है। ग्राम पंचायत उसे प्रारंभिक छानबीन और मंजूरी के लिए कार्यक्रम अधिकारी के पास भेज देता है। कार्यक्रम अधिकारी पंचायत के प्रस्तावों और मध्यवर्ती पंचायत के प्रस्तावों को प्रखंड योजना में समेकित करता है और मध्यवर्ती पंचायत की स्वीकृति के बाद उसे जिला कार्यक्रम समन्वयक के पास भेज देता है। जिला कार्यक्रम समन्वयक प्रखंड योजना एवं अन्य कार्यान्वयन एजेंसियों से प्राप्त प्रस्तावों को समेकित करता है और जिला पंचायत प्रखंड दर प्रखंड योजनाओं का अनुमोदन करती है तथा राज्य व केन्द्र सरकार योजना के क्रियान्वयन में सहायता करती है।

मनरेगा के कार्यों का विश्लेष्णात्मक अध्ययन

अजमेर जिले में लोगों को प्राप्त रोजगार का विश्लेषण–

तालिका 1: वित्तीय वर्ष (2018–19 से 2020–21) के दौरान अजमेर जिले में श्रमिकों द्वारा जॉब कार्ड के लिये आवेदन की संख्या में से जॉब कार्ड प्राप्तकर्ता के प्रतिशत का विश्लेषण

वित्तीय वर्ष	परिवारों द्वारा जॉब कार्ड के लिये आवेदन की कुल संख्या (लाख में)	परिवारों को प्राप्त जॉब कार्ड की कुल संख्या (लाख में)	जॉब कार्ड प्राप्तकर्त्ता का प्रतिशत
2018–19	5,04,303	5,04,203	99.98
2019–20	5,17,394	5,17,374	99.99
2020–21	5,18,273	5,18,173	99.98

उपर्युक्त तालिका 1 में हमने वित्तीय वर्ष 2018–2019 से लेकर 2020–2021 तक के आँकड़ों को दर्शाया है जिसमें परिवारों द्वारा जॉब कार्ड के लिए आवेदन की कुल संख्या में से, जॉब कार्ड प्राप्तकर्ता की कुल संख्या को बताया है, वित्तीय वर्ष 2018–19 से 2020–21 में जॉब कार्ड के लिए आवेदकों की संख्या में कुछ कमी व वृद्धि पाई गई हैं। लेकिन जॉब कार्ड प्राप्तकर्ता धारकों का प्रतिशत लगभग 99 प्रतिशत प्राप्त हो रहा है। इससे यह स्पष्ट होता है कि लोगों को मनरेगा योजना के अन्तर्गत रोजगार प्राप्त करने का हक दिया जा रहा है।

तालिका 2: वित्तीय वर्ष (2018—19 से 2020—21) के दौरान कुल जॉब कार्ड में से SC, ST व अन्य वर्ग को उपलब्ध करवाए गए कुल निर्गमित जॉब कार्ड संख्या के आधार पर प्रतिशत का विश्लेषण

वित्तीय वर्ष	कुल जॉब कार्ड का निर्गमन (लाख में)	अनुसूचित जाति को निर्गमन		अनुसूचित जनजाति को निर्गमन		अन्य वर्ग को निर्गमन	
		कुल जॉब कार्ड	%	कुल जॉब कार्ड	%	कुल जॉब कार्ड	%
2018—19	5,04,203	76998	15.27	15512	3.08	4,11,693	81.65
2019—20	5,17,374	77189	14.92	15864	3.07	4,24,321	82.01
2020—21	5,18,173	77383	14.93	15982	3.08	4,24,808	81.98

उपर्युक्त तालिका 2 में हमने कुल जॉब कार्ड के निर्गमन की संख्या को वित्तीय वर्ष 2018—2019 से लेकर 2020—2021 तक के आँकड़ों के आधार पर दर्शाया गया है। वित्तीय वर्ष 2018—2019 में कुल जॉब कार्ड धारकों की संख्या का निर्गमन लगभग 5,04,203 लाख रहा है, वित्तीय वर्ष 2019—20 व 2020—21 में कुल जॉब कार्ड धारकों की संख्या में वृद्धि हुई है। वित्तीय वर्ष 2018—2019 से लेकर 2020—2021 में अनुसूचित जाति, अनुसूचित जनजाति व अन्य वर्ग को प्राप्त कुल जॉब कार्ड में से सबसे अधिक अनुपात अन्य वर्ग का है। जो यह बताता है कि अन्य वर्ग में ये सभी ग्रामीण व्यक्ति आते है। जो गरीबी रेखा से नीचे है, चाहे वह किसी भी धर्म, जाति के हो। वह व्यक्ति मनरेगा योजना में कार्य करने के योग्य है और इसके बाद द्वितीय स्थान अनुसूचित जाति का रहा है। जो आज भी काफी पिछड़ी हुई है। इसके बाद तृतीय स्थान अनुसूचित जनजाति का है क्योंकि भारत सरकार ने देश में रहने वाली ग्रामीण जनता को ध्यान में रखकर मनरेगा योजना में अनुपात तय किया है। इस तरह लोगों को रोजगार देने में यह योजना काफी सराहनीय कार्य कर रही है।
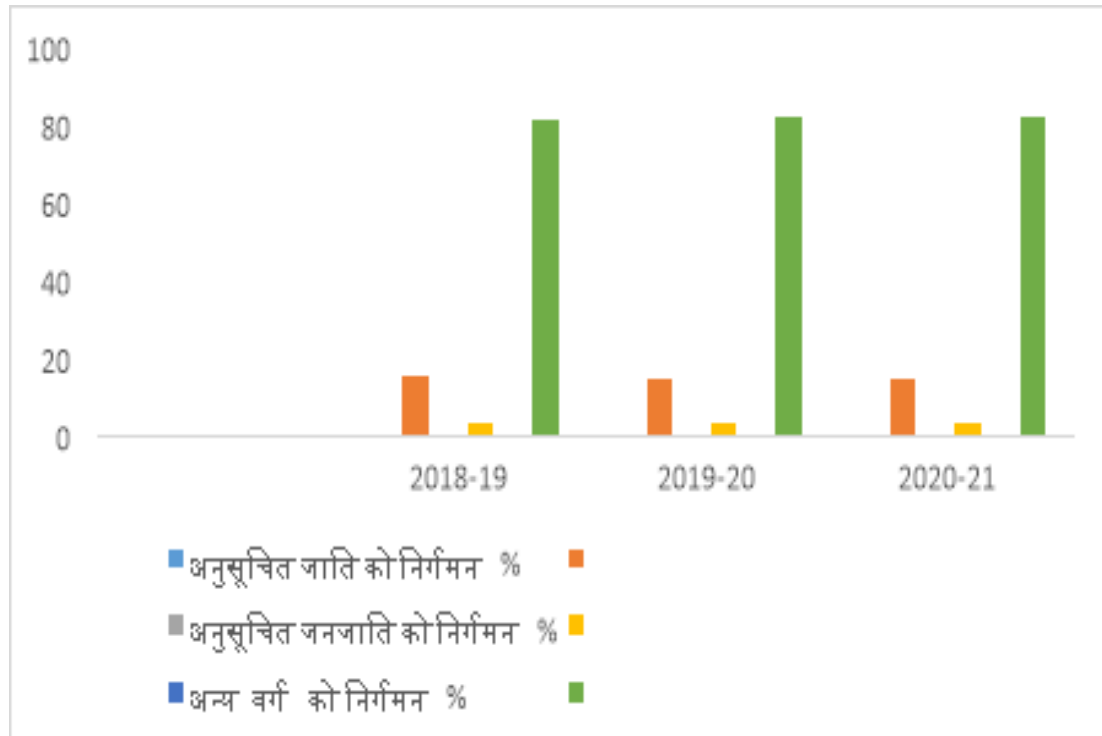
चित्र 1: कुल जॉब कार्ड निर्गमन की संख्या में से SC, ST व अन्य वर्ग को प्राप्त जॉब कार्ड की संख्या के आधार पर प्रतिशत की गणना

तालिका 3: वित्तीय वर्ष (2018—19 से 2020—2021) के दौरान अजमेर जिले में निवास करने वाले कुल ग्रामीण परिवारों द्वारा रोजगार की मांग के अनुसार रोजगार का आवंटन

वित्तीय वर्ष	कुल ग्रामीण परिवारों द्वारा रोजगार की मांग (लाख में)	कुल ग्रामीण परिवारों द्वारा रोजगार की मांग के अनुसार रोजगार का आवंटन (लाख में)	रोजगार की मांग के आवंटन का प्रतिशत
2018—19	2,04,313	2,04,213	99.95
2019—20	2,27,289	2,27,279	99.99
2020—21	2,32,294	2,32,264	99.98

उपर्युक्त तालिका 3 के अन्तर्गत कुल ग्रामीण परिवारों द्वारा रोजगार की मांग व कुल ग्रामीण परिवारों द्वारा रोजगार की मांग के अनुसार रोजगार के आवंटन को वित्तीय वर्ष 2018—19 से 2020—21 के मध्य में प्रदर्शित किया गया है अर्थात् मनरेगा योजना में अजमेर शहर में रहने वाले, जितने परिवारों ने कार्य की मांग की है उनके मांग के अनुसार रोजगार का आवंटन वित्तीय वर्ष 2018—19 में 99.95 प्रतिशत के लगभग प्राप्त हुआ है। इसी तरह वित्तीय वर्ष 2019—20 व 2020—21 में यह प्रतिशत 99.99 व 99.98 रहा है। अतः मनरेगा योजना ग्रामीण क्षेत्र के सभी परिवारों को रोजगार का आवंटन कर रही है और लोगों को रोजगार प्राप्त हो रहा है। क्योंकि मनरेगा योजना का उद्देश्य यह है कि लोगों को काम मांगने पर तुरन्त रोजगार को उपलब्ध करवाना है। ताकि कोई भी व्यक्ति बेरोजगार न रहें। और योजना से प्राप्त रोजगार से अपना व अपने परिवार का पालन—पोषण कर आजीविका चला सके।

तालिका 4: वित्तीय वर्ष (2018—19 से 2020—21) के दौरान अजमेर जिले के प्रत्येक ग्रामीण वयस्क व्यक्तियों (जॉब कार्ड में सम्मिलित) द्वारा रोजगार की मांग के अनुसार रोजगार का आवंटन

| वित्तीय वर्ष	जॉब कार्ड में सम्मिलित प्रत्येक वयस्क व्यक्तियों द्वारा रोजगार की मांग (लाख में)	जॉब कार्ड में सम्मिलित प्रत्येक वयस्क व्यक्ति को रोजगार का आवंटन (लाख में)	उपलब्ध कराए गये रोजगार का प्रतिशत
2018—19	2,97,456	2,97,416	99.99
2019—20	3,03,015	3,03,002	99.99
2020—21	3,10,118	3,10,002	99.96

उपर्युक्त तालिका 4 में वित्तीय वर्ष 2018—19 से लेकर 2020—21 तक के आँकड़ों के अन्तर्गत हमने जॉब कार्ड में सम्मिलित प्रत्येक वयस्क व्यक्तियों द्वारा रोजगार की मांग व प्रत्येक वयस्क व्यक्तियों को रोजगार के आवंटन को बताया है। वित्तीय वर्ष 2018—19 से 2020—21 में कार्य का आवंटन 99 प्रतिशत के लगभग रहा है। जो यह बताता है कि लोगों को रोजगार मिल रहा है।

तालिका 5: वित्तीय वर्ष (2018—19 से 2020—21) में रोजगार की मांग करने वाले परिवारों की संख्या में से, वास्तविक रूप से रोजगार प्राप्त परिवारों की संख्या का विश्लेषण

वित्तीय वर्ष	रोजगार की मांग करने वाले कुल परिवारों की संख्या (लाख में)	वास्तविक रूप से रोजगार प्राप्त कुल परिवारों की संख्या (लाख में)	रोजगार प्राप्त परिवारों की संख्या का प्रतिशत
2018—19	2,04,313	1,93,382	94.65
2019—20	2,27,289	2,17,272	95.59
2020—21	2,32,294	2,22,186	95.65

उपर्युक्त तालिका 5 के द्वारा अजमेर में कुल परिवारों को प्राप्त रोजगार के प्रतिशत को बताया गया है। वित्तीय वर्ष 2018—19 में परिवारों को प्राप्त रोजगार का प्रतिशत 94.65 प्रतिशत है। इस तरह वित्तीय वर्ष 2018—19

से 2020—21 तक रोजगार की मांग के अनुसार रोजगार प्राप्तकर्ता के प्रतिशत में थोड़ी वृद्धि हुई है। अतरू हमारा विश्लेषण यह कहता है कि लोगों को रोजगार मिल रहा है।
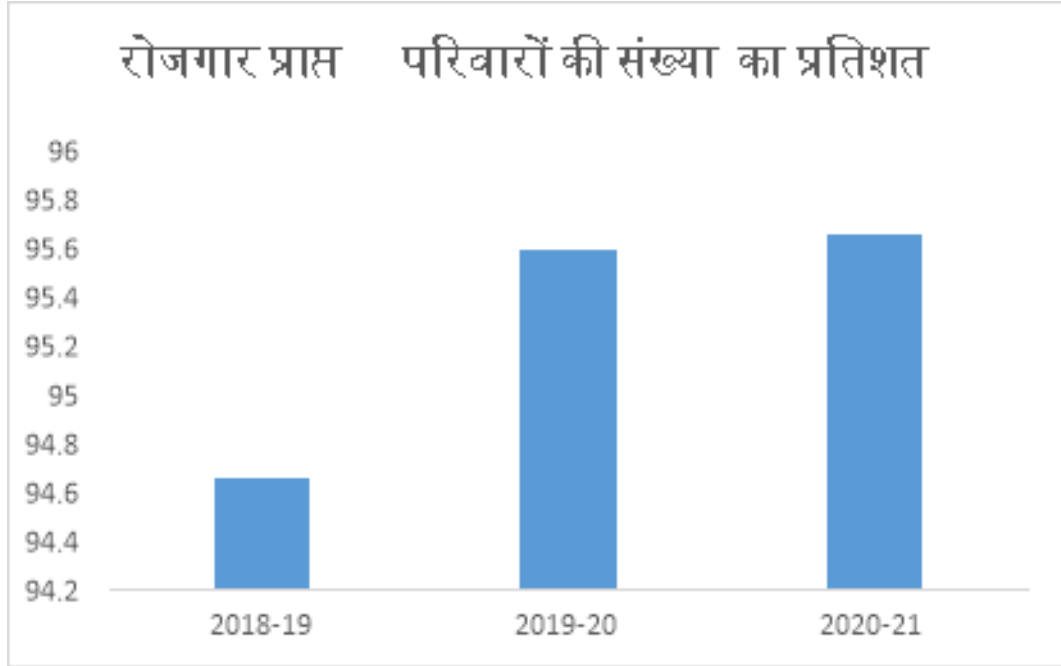

चित्र 2ः वित्तीय वर्ष 2018—19 से 2020—21 के मध्य रोजगार प्राप्त परिवारों की संख्या का प्रतिशत

तालिका 6ः वित्तीय वर्ष (2018—19 से 2020—21) वास्तविक रूप से रोजगार प्राप्त परिवारों की संख्या में से 100 दिनों का रोजगार पूर्ण करने वाले परिवारों की संख्या का विश्लेषण

वित्तीय वर्ष	वास्तविक रूप से रोजगार प्राप्त परिवारों की संख्या	100 दिनों का रोजगार पूर्ण करने वाले परिवारों की संख्या	100 दिनों का रोजगार पूर्ण करने वाले परिवारों का प्रतिशत
2018—19	1,93,382	14,809	7.66
2019—20	2,17,272	11,808	5.43
2020—21	2,22,186	11,002	4.95

उपर्युक्त तालिका 6 में हमने वित्तीय वर्ष 2018—19 से 2020—21 के मध्य वास्तविक रूप से रोजगार प्राप्त परिवारों की संख्या में 100 दिनों का रोजगार पूर्ण करने वाले परिवार को बताया है अर्थात प्रत्येक परिवार में से जिनको 100 दिनों का रोजगार दिया जाता है। उनमें से कितने व्यक्ति 100 दिनों की अपनी हाजरी पूर्ण कर मजदूरी की राशि पूरी प्राप्त करते हैं, इस प्रकार वित्तीय वर्ष 2018—19 में वास्तविक रूप से रोजगार प्राप्त परिवारों की संख्या में से 100 दिनों का रोजगार पूर्ण करने वाले परिवार 7.66 प्रतिशत है जो यह बताता है कि मनरेगा योजना में 100 दिनों का लाभ बहुत कम लोग प्राप्त करते है। इसके बाद पुनः वित्तीय वर्ष 2019—20 व 2020—21 में 5.43 प्रतिशत व 4.95 प्रतिशत घटता हुआ प्रदर्शित हो रहा है इससे यह निष्कर्ष निकलता है कि मनरेगा योजना में रोजगार प्राप्त परिवार 100 दिनों का रोजगार बहुत कम पूरा कर पाते है। इसका प्रमुख कारण यह है कि ग्रामीण जनता को जिस क्षेत्र में अधिक मजदूरी मिलती है वह उस क्षेत्र में कार्य करने चली जाती हैं इसलिए वित्तीय वर्ष में 100 दिनों का रोजगार पूर्ण करने वाले कम होते है। लेकिन फिर भी यह कहा जा सकता है कि मनरेगा योजना में वास्तविक रूप से रोजगार प्राप्त करने वाले परिवारों की संख्या काफी ज्यादा है।
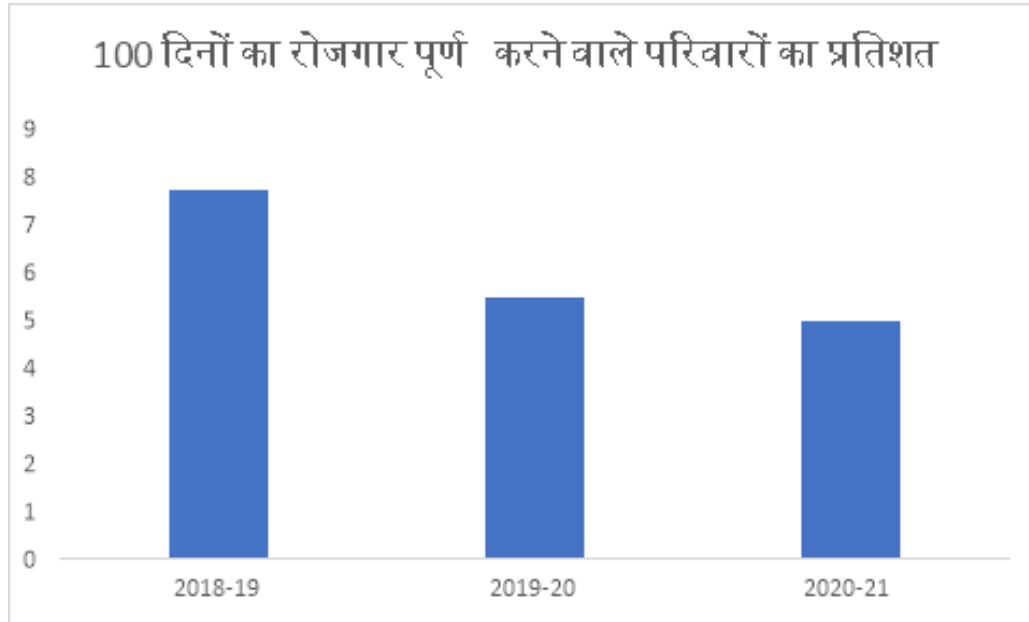
चित्र 3: 100 दिनों का रोजगार पूर्ण करने वाले परिवारों का प्रतिशत

अध्ययन के निष्कर्ष

अध्ययन में राजस्थान राज्य के अजमेर जिले से तीन वित्तीय वर्षों का डेटा लिया गया है, जिसके आधार पर यह कहा जा सकता है कि महात्मा गाँधी राष्ट्रीय रोजगार गारन्टी योजना राज्य सरकार की लोकप्रिय योजनाओं में से एक है। एक ओर इस योजना के माध्यम से ग्रामीण परिवारों के हजारों अकुशल श्रमिकों को रोजगार प्राप्त हो रहा है उनके प्रति व्यक्ति आय में वृद्धि हो रही है, उनके जीवन स्तर में सुधार हो रहा है। यह योजना बेरोजगारी दूर करने में सहायक सिद्ध हुई है। इस योजना के माध्यम से ग्रामीण क्षेत्रों का विकास हुआ है। ग्रामीणों में क्रांति आई है। यह योजना ग्रामीण परिवारों का शहरों की ओर होने वाले पलायन को रोकने में सहायक सिद्ध हुई है। जिसके परिणाम स्वरूप राजस्थान राज्य में बेरोजगारी दर कम हुई है।

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DIGITAL PAYMENT AND ECONOMIC EMPOWERMENT OF STREET VENDORS

Nitesh Kumar*

ABSTRACT

Street vending is playing an important role in unemployment eradication and activities like alleviation components in the world. The empowerment of the economy of the deprived people can explore based on different forms like savings level, monthly earnings, important parameters, education and social status and health status improvement. This study will aim to emphasize the importance of the digital payment option and the need for economic empowerment of street vendors. In the modern era and the stage of digitalization, it is very crucial to include digitalization in street vending. Already a large number of vendors are using digital procedures for payment and customer satisfaction.

KEYWORDS: *Digital Payments, Empowerment, Street Vendors.*

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Introduction

Street vendors priding an important role in the economy of the urban economy with the provision of self-employment to large-scale people. In the business, context authorities do not give the required attention to the street vendors. There are several issues with the infrastructure, lack of government support, fewer opportunities in finance, and insecurity determined as the great challenges faced by them. Nowadays economic empowerment is mostly important for creating development in the world economy.

Literature Review

According to author Sivasubramanian *et al*. 2021, during the pandemic situation, they struggled so much for securing their life. They have lost the sources of their income. After the pandemic situation needs to be rectified by empowering themselves. The various parameters influenced the economic status of the street vendors. From the survey of many people, it is denoted that nearly 1.2 billion people are enrolled in the digitalization in the payment system. It very needs to empower them for enhancing their performance. They faced street vending challenges as per the changes in the economy. A maximum of common people like salaried persons in the age group of under 40 years preferred a digital payment system for purchasing any kind of product (Sivasubramanian *et al.* 2021). This study emerged the various activities in purchasing, transactions or online shopping. It also identified that stock markets are investing with flow v by playing statistical tests. It provided several chances and was helpful to small businesses, especially street sellers. Utilizing the actual field study through the direct survey technique also exposes the socio-economic issues that the market sellers in the study region confront. It is reported that the prior condition of the economy of vendors changed after the inclusion of digitalization in small vending. They usually have their open shops on the pavement of the road in the nearest area of the market. No9w government offers a large range of self-employment opportunities for the vendor. According to this study, street merchants' use of digital payment systems enhances their revenue, investment, and sales volume. It increases their social and economic empowerment (Aji *et al.* 2020). The digital payment method helps street vendors and other small shops grow their customer base and revenue. They are content because of the rise in their salary level, which also helps their family advance both financially and socially.

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According to Nandru *et al.* 2021, the present condition of the digital system of payment through scanning any code or through other digital payment systems is mostly required for the small retailer and vendors on the streets. It increased their income level and led to support for their family for social uplifting. It is needed for the digital transformation band to help to revolutionize the economy. The revolution will be implemented by better policy implementation. It can be enabled using the theoretical process in the market and behavior regarding the information (Nandru *et al.* 2021). Also, the environmental effects and adoption of technology affect the economy of the people. As because most of the street vendors are from poor economic backgrounds they need enthusiasm from the governments and the business authority. In this context, some of the poorest, most vulnerable, most marginalized segments of the urban irregular employment market are street vendors. Given their ability to respond to the shifting needs of urban culture, street vending is viewed as a booming industry; nonetheless, this type of self-employed individual has not yet been given legal standing. Exposure to formal credit is one of several variables that contribute to this predicament (Mramba, 2022). The obstacle is the simple availability of formal credit institutions, even though it may be claimed that the capital market and inclusive growth can work together to provide chances for self-employment and reduce poverty and joblessness.

Table 1: Approx Year Wise Income and Sales Distribution of Street Vendors

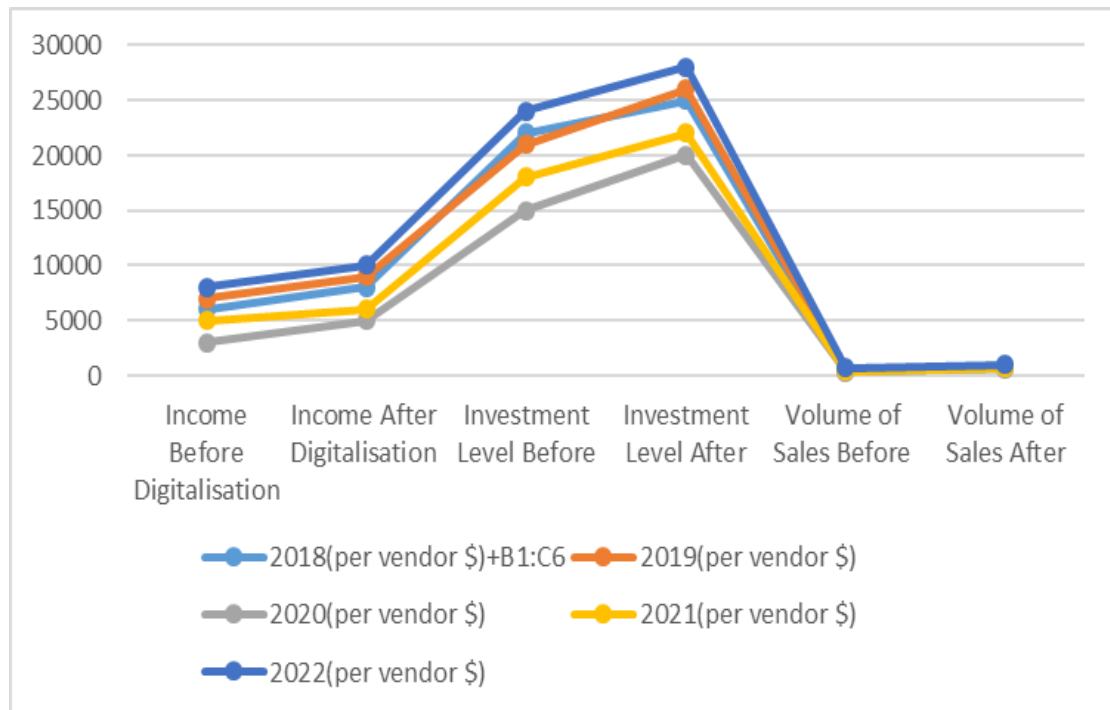|	2018 (Per Vendor $)	2019	2020	2021	2022
Income before Digitalisation	6000	7000	3000	5000	8000
Income After Digitalisation	8000	9000	5000	6000	10000
Investment Level Before	22000	21000	15000	18000	24000
Investment Level After	25000	26000	20000	22000	28000
The volume of Sales Before	400	500	300	400	700
The volume of Sales After	700	800	600	700	1000

Figure 1: Graph Chart of Investment and Sales Level

It is examined that in the several years there are changes in the income level of the vendors. Here the increment is shown in the recent years.

Table 2: Number of using Digital Payment Systems in Street Vending

Year	Number of Vendors using Digital Payment (Million)
2018	52
2019	60
2020	70
2021	85
2022	95
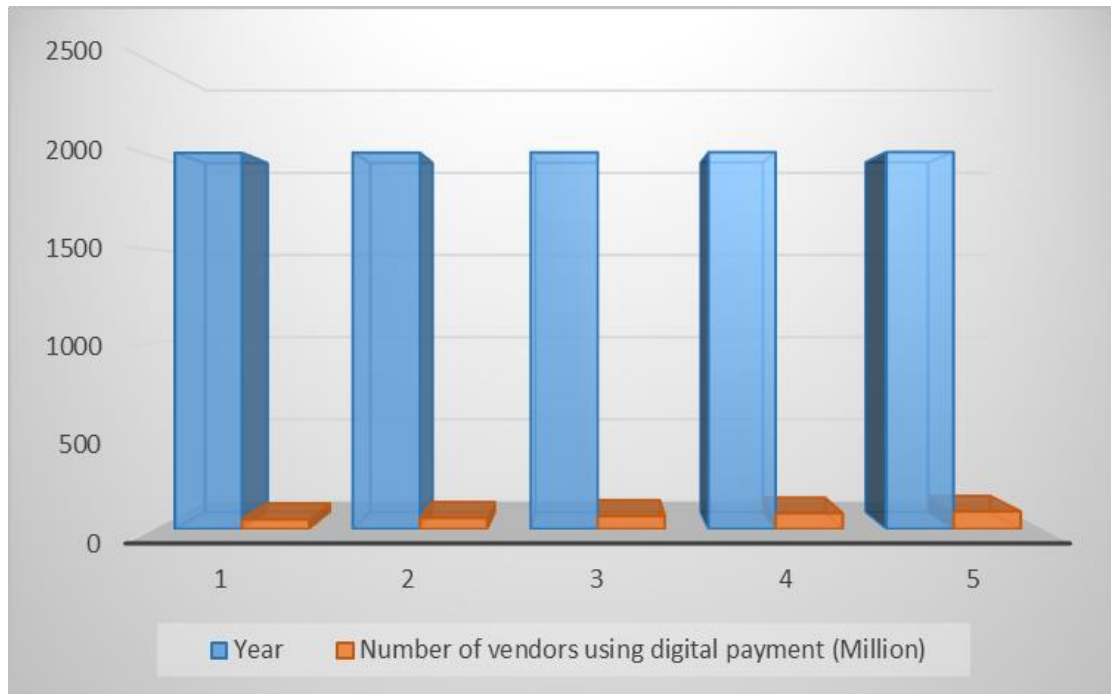
Figure 2: Vendors using Digital Payment

Analysis

As per the statistical analysis of the data, it can be able to clarify that after changes of the year the number of using digital payment systems is increased. It is categorized that street vendors who are giving their shops on the streets understand the need for digitalization. Some vendors are still now using the cash payment system only (Storm, 2018). They faced many problems in the sales of any products. The government is taking more initiatives for establishing a digital payment system in all small shops and vendors. Digital adoption of the payment depends upon the transaction scope and nature. Three kinds of street sellers have been established. First, merchants are those who do their peddling regularly in a certain location. Furthermore, merchants are those who engage in vending irregularly and without a fixed location, such as those who sell items at weekly bazaars. Mobile street vendors make up the third category of sellers. As a result, street vendors are either nomadic in the sense that they travel from one location to another or immobile in the respect that they take up space on the sidewalks or other public areas. From the street shops, the economic level of the whole country is affected. The economy of any country is proximately influenced by the small business emporium. In achieving growth targets in business government adopts digitalization everywhere in business. The significant changes in the world economy are affected by the pandemic situation. So, there is a lot of need to empower small businesses (Pal *et al.* 2018). In the economic empowerment of the street vendors for evaluating the economy. There are some vendors selling food items in the locality that should be protected by the local authorities. They have a lack of training and less education as result decreasing of business. The empowerment of local vendors is the key factor in the growth of the economy. Especially in the driving of economic growth, it creates sustainable and inclusive economies.

Nowadays they are trying to adopt the digital payment system as per customer demand. Many customers are demanding digitalization in the delivery process also. Small business owners are utilizing the need of the customer and started empowering the whole economy (Suresh and Suresh, 2021). The government are started to train them for accepting digital payment systems easily. While a portion of this, training has been given to upwards of 660 street sellers in the city thus far. Since about half of street sellers do not own smartphones, a solution that permits taking digital payments into their accounts even using a conventional phone and SMS notifications is being offered to them. The government are influenced them to receive loans for developing their business. Especially contrasted to cash transactions, payment systems significantly minimize the amount of time required for transactions. Moreover, invoicing is much quicker by utilizing Passcodes and card payments. It is realized that Digital payments are very dependable because of the strict security procedures in place. Consumers and sellers may make their transactions safer by using electronic money (Krishnan *et al*. 2019). The secrecy of e-digital currencies is one of its key advantages and a reason why more companies and customers are choosing to use this payment method. The encouragement of suppliers and evaluation of consumer satisfaction.

Conclusion

At the end of the research, it is concluded that the entire research is focused on the investigation of digital payment and economic empowerment of street vendors around the world. The research evolves the need and idea of utilizing digiotali8zation in small businesses. It also clarifies the economic growth and the sustainability factors including the street vendors. This research will lead to the development of a further detailed study of the mentioned concept and it helps to emphasize the actual need and importance of digital payment and empowerment of small business owners in the world. This also helps another researcher for involving in the impressive study with detailed information for further research.

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DEEP LEARNING ARCHITECTURES IN FINANCIAL FORECASTING: A COMPARATIVE ANALYSIS FOR STOCK PRICE PREDICTION

Dr. Gorakh Wakhare[*]

ABSTRACT

This research investigates the efficacy of three deep learning architectures–Long Short-Term Memory (LSTM), Convolutional Neural Network (CNN), and Transformer models–in the context of predicting stock prices. The primary objectives include a comparative analysis of these architectures, emphasizing their strengths and weaknesses, and evaluating their performance against relevant financial metrics. The study utilizes a comprehensive dataset sourced from reputable financial databases, covering a specific time period crucial for capturing diverse market conditions. Methodologically, each model is implemented with specific hyperparameters, and the dataset undergoes rigorous preprocessing to enhance its suitability for deep learning applications. The findings reveal distinctive strengths for each architecture: LSTM excels in capturing short-to-medium term trends, CNN demonstrates proficiency in identifying localized patterns, and Transformer models showcase a robust ability to capture long-range dependencies. However, considerations such as computational complexity and resource requirements accompany the strengths of each model. The comparative analysis provides nuanced insights into the predictive abilities of these architectures, guiding practitioners in selecting models aligned with specific data characteristics. In conclusion, this research contributes to the understanding of deep learning models in stock price prediction, offering practical implications for financial decision-makers. The results and insights provided pave the way for future research, suggesting avenues for refining existing models and exploring emerging architectures in the dynamic landscape of financial forecasting.

***KEYWORDS**: Deep Learning, Stock Price Prediction, LSTM, CNN, Machine Learning.*

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Introduction

In contemporary financial landscapes, the prediction of stock prices plays a pivotal role in aiding investors, financial analysts, and institutions in making informed decisions. As financial markets continue to evolve, the ability to forecast stock prices accurately has become increasingly crucial. This introduction provides a foundation for understanding the significance of stock price prediction, delving into the challenges inherent in this complex task.

Background

- **Importance of Stock Price Prediction:** The importance of stock price prediction cannot be overstated, as it serves as a cornerstone for financial decision-making. Investors rely on accurate forecasts to optimize their investment portfolios, minimize risks, and capitalize on potential opportunities. Financial analysts leverage predictive models to offer insights into market trends, enabling strategic planning and risk management. Institutions, ranging from banks to hedge funds, utilize these predictions to enhance their overall financial performance.

- **Challenges and Complexities:** Despite the critical role of stock price prediction, the task is fraught with challenges and complexities. Financial markets are dynamic and influenced by a

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myriad of factors, including economic indicators, geopolitical events, and market sentiment. The inherent noise in stock price data, coupled with the presence of sudden, unforeseen events, renders prediction a challenging endeavor. Traditional methods often struggle to capture the intricate patterns and nonlinear relationships within the data, necessitating the exploration of advanced techniques.

Objectives

- **Goals of the Research:** The primary aim of this research is to conduct a comprehensive analysis of deep learning architectures—specifically Long Short-Term Memory (LSTM), Convolutional Neural Network (CNN), and Transformer models—in the context of stock price prediction. Through this investigation, we seek to understand and compare the predictive capabilities of these architectures, shedding light on their respective strengths and weaknesses.

- **Significance of Evaluating Different Architectures:** The significance of evaluating various deep learning architectures lies in the diverse nature of financial data. Different architectures are designed to capture different aspects of sequential and non-sequential patterns. By scrutinizing LSTM, CNN, and Transformer models, this research aims to discern their efficacy in capturing temporal dependencies, spatial relationships, and long-range dependencies within stock price data. Such an evaluation is essential for providing nuanced insights into the suitability of these architectures for the complex task of stock price prediction.

In summation, this research endeavors to contribute to the evolving field of financial forecasting by providing a comparative analysis of deep learning architectures, fostering a deeper understanding of their applicability in predicting stock prices.

Literature Review

Overview of Stock Price Prediction

- **Summarizing Existing Methodologies:** Historically, the realm of stock price prediction has witnessed the evolution of various methodologies, ranging from traditional statistical models to more contemporary machine learning approaches. Traditional methods, such as time series analysis and autoregressive models, have been instrumental in capturing basic trends and patterns in stock prices. Concurrently, machine learning techniques, including regression models and decision trees, have gained traction for their ability to handle nonlinearity and adapt to dynamic market conditions.

However, the limitations of these traditional and early machine learning approaches have prompted researchers to explore more sophisticated methods. The need for models capable of handling complex data structures and dynamic market behaviors has paved the way for the integration of deep learning architectures in stock price prediction.

Deep Learning in Finance

- **Exploring Previous Studies:** In recent years, the application of deep learning in finance has emerged as a promising avenue for enhancing predictive accuracy. Numerous studies have investigated the efficacy of deep learning architectures in various financial tasks, including stock price prediction. These studies have utilized diverse datasets encompassing historical stock prices, financial indicators, and macroeconomic variables.

- **Strengths and Limitations:** The strengths of deep learning models in finance lie in their ability to automatically extract intricate patterns from large and complex datasets. Neural networks, such as LSTM, CNN, and Transformer models, demonstrate a capacity to discern nonlinear relationships and dependencies that elude traditional models. However, the interpretability of deep learning models remains a challenge, raising concerns about their use in critical financial decision-making processes. Furthermore, the requirement for substantial computational resources and large datasets can be a limiting factor, particularly for smaller financial entities.

Review of LSTM, CNN, and Transformer Models

- **Detailed Explanations:** Long Short-Term Memory (LSTM) networks, renowned for their ability to capture long-range dependencies, have shown promise in sequential data prediction, making them particularly relevant for time-series forecasting. Convolutional Neural Networks (CNNs), originally designed for image processing, have been adapted to capture spatial patterns within sequential financial data, demonstrating success in certain financial forecasting tasks.

Transformer models, introduced for natural language processing, have recently gained attention for their capacity to capture global dependencies in sequential data, showcasing potential applications in finance.

- **Applications and Suitability for Stock Price Prediction:** Each deep learning architecture brings unique capabilities to the table. LSTMs are well-suited for capturing temporal dependencies, making them adept at modeling trends and patterns in stock prices. CNNs, with their spatial feature extraction, excel in identifying localized patterns within financial time series. Transformers, designed for sequence-to-sequence tasks, offer promise in capturing long-range dependencies, potentially addressing challenges related to extended market trends and macroeconomic factors.

While these models exhibit strengths, their suitability for stock price prediction depends on the characteristics of the data and the specific nuances of financial markets. This review sets the stage for our empirical investigation into the comparative performance of LSTM, CNN, and Transformer models in predicting stock prices, leveraging insights from both the broader literature on stock price prediction and the specific applications of deep learning in finance.

In the field of finance, there has been a growing utilization of Long Short-Term Memory networks (LSTMs) for the analysis of time series data. To illustrate, research has delved into employing LSTMs for predicting prices on various global stock market indices, including but not limited to the S&P500, Shanghai's SSE Index, India's NIFTY 50, and Brazil's Ibovespa, as detailed in studies [1,2,3,4,5].

An LSTM, which is a type of Recurrent Neural Network (RNN), incorporates feedback loops. What sets it apart is its ability to control and regulate its memory through a gating mechanism. This mechanism learns to determine what information to retain, transmit, or discard. LSTMs find extensive use and have demonstrated exceptional predictive performance in various domains such as natural language processing, handwriting recognition, image recognition, and image captioning. Refer to, for instance, [6, 7, 8, 9, 10] for further insights.

Selvin, Menon, Soman, et al., as discussed in [11], conducted experiments involving three distinct deep learning models: CNN, RNN, and LSTM, employing a sliding window approach. Among these models, CNN yielded more accurate results compared to the other two. This can be attributed to the fact that CNN utilizes information solely from the current window to predict stock prices. This enables CNN to grasp dynamic changes and patterns occurring in the current window. In contrast, RNN and LSTM rely on information from previous lags to predict future instances.

Methodology

Data Collection

- **Dataset and Time Period:** For this research, we utilized a comprehensive dataset encompassing historical stock prices, financial indicators, and relevant macroeconomic variables. The dataset spans a specific time period crucial for capturing a diverse range of market conditions and includes daily or intraday stock price data. The sources of the data encompass reputable financial databases, such as S&P500, India's NIFTY 50, Yahoo Finance, or other publicly available financial repositories. The selection of these sources is grounded in their reliability, accessibility, and widespread use in financial research.

- **Pre-processing Steps:** Prior to model training, the dataset underwent meticulous preprocessing to enhance its suitability for deep learning architectures. The pre-processing steps included:

  - **Data Cleaning:** Removal of missing or inconsistent data points to ensure the integrity of the dataset. Handling outliers and anomalies that might skew the training process.

  - **Normalization:** Scaling the numerical features within the dataset to a standardized range, often between 0 and 1, to facilitate convergence during training.

  - **Feature Engineering:** Creation of relevant features derived from the original dataset to capture additional information, such as moving averages, technical indicators, or sentiment scores.

- **Time Series Segmentation:** Division of the time series data into appropriate segments, considering factors like seasonality and market trends, to enhance the model's ability to capture temporal dependencies.
- **Train-Test Split:** Division of the dataset into training and testing sets. The training set is used to train the models, while the testing set remains unseen during training and serves as a benchmark for evaluating model performance.
- **Sequence Padding:** Ensuring that input sequences to the models are of consistent length, often achieved through padding or truncation, to facilitate batch processing.

These preprocessing steps are crucial for mitigating noise, enhancing model convergence, and ensuring the robustness of the models in the face of real-world financial data complexities.

The careful selection of a comprehensive dataset and the application of rigorous preprocessing steps lay the foundation for the subsequent implementation and evaluation of LSTM, CNN, and Transformer models in predicting stock prices.

Model Implementation

Implementation of LSTM, CNN, and Transformer Models for Stock Price Prediction:

- **LSTM Model:** The Long Short-Term Memory (LSTM) model was implemented using a sequential architecture, comprising multiple LSTM layers followed by densely connected layers for regression. The input to the model included historical stock prices and relevant features. The key hyper parameters and implementation details were as follows:
  - **Hyper parameters:** LSTM units: Tuned based on experimentation to balance model complexity and predictive performance. Dropout rate: Applied to mitigate overfitting. Learning rate: Adjusted for optimal convergence during training.
  - **Training/Validation/Testing Splits:** Training Set: 70% of the dataset, used for training the model. Validation Set: 15% of the dataset, employed for hyperparameter tuning and preventing overfitting. Testing Set: 15% of the dataset, kept unseen during training for final model evaluation.
- **CNN Model:** The Convolutional Neural Network (CNN) model was designed to capture spatial patterns within sequential financial data. The architecture involved convolutional layers followed by densely connected layers for regression. The implementation specifics included:
  - **Hyperparameters:** Convolutional layers: Configured to extract spatial features from the input sequences. Pooling layers: Utilized for down sampling and enhancing computational efficiency. Dropout rate: Applied for regularization.
  - **Training/Validation/Testing Splits:** Same splits as the LSTM model were used for consistency.
- **Transformer Model:** The Transformer model, originally designed for sequence-to-sequence tasks, was adapted for stock price prediction. The architecture included self-attention mechanisms and feedforward layers. Key implementation details were as follows:
  - **Hyperparameters:** Transformer layers: Configured to capture long-range dependencies. Feedforward layer dimensions: Adjusted to balance model expressiveness. Learning rate: Optimized for effective training.
  - **Training/Validation/Testing Splits:** Consistent with the splits used for LSTM and CNN models.

Specific Considerations

- **Loss Function:** Mean Squared Error (MSE) was employed as the loss function for regression tasks.
- **Optimizer:** Adam optimizer was utilized for its adaptability and efficiency in minimizing the loss function.
- **Batch Size:** Experimentation determined an optimal batch size, considering computational resources and model stability.

- **Training Epochs:** The models were trained for a predefined number of epochs, with early stopping implemented based on validation loss to prevent overfitting.
- **Ensemble Model Consideration (if applicable):** In certain cases, an ensemble model combining predictions from LSTM, CNN, and Transformer models was explored to leverage the strengths of individual architectures.

By detailing the implementation specifics, hyperparameters, and training/validation/testing splits for each model, this research ensures transparency and replicability of the experimental setup, setting the stage for a rigorous evaluation of the models' performance in predicting stock prices.

Results and Analysis

Performance Metrics

- **Evaluation of Model Performance:** The performance of each model was assessed using key metrics, namely Mean Squared Error (MSE), Root Mean Squared Error (RMSE), and, where applicable, accuracy. These metrics offer insights into the models' ability to accurately predict stock prices and quantify the magnitude of prediction errors.
- **Comparative Analysis:** A comprehensive comparative analysis was conducted to discern the relative strengths and weaknesses of the LSTM, CNN, and Transformer models. By considering their performance across multiple metrics, we aim to identify the most effective architecture for stock price prediction under the specific conditions of the dataset.

Interpretation of Results

- **Findings from the Results Section:** Upon evaluating the performance of the LSTM, CNN, and Transformer models in predicting stock prices, several key findings emerged. The Mean Squared Error (MSE), Root Mean Squared Error (RMSE), and accuracy metrics were employed to quantify the models' predictive abilities. The results unveiled nuanced insights into the strengths and weaknesses of each deep learning architecture.
    - **LSTM Model:** The LSTM model demonstrated commendable performance in capturing temporal dependencies within the stock price data. It exhibited a strong ability to model trends and short-to-medium term fluctuations. However, its performance might be influenced by the sensitivity to the sequence length, potentially limiting its effectiveness in predicting longer-term trends.
    - **CNN Model:** The CNN model, designed to capture spatial patterns within sequential data, showcased notable strengths in identifying localized features and abrupt changes in stock prices. However, it might be less effective in capturing long-range dependencies and global market trends due to its focus on local patterns.
    - **Transformer Model:** The Transformer model, with its capacity to capture long-range dependencies, excelled in predicting stock prices influenced by extended market trends and macroeconomic factors. However, the computational complexity and resource requirements of Transformer models were notable considerations, especially for smaller financial entities.
- **Discussion of Strengths and Weaknesses:** The strengths and weaknesses of each architecture need to be considered in the context of stock price prediction. While LSTMs excel in capturing short-to-medium term trends, they may struggle with long-range dependencies. CNNs are adept at capturing local patterns is missing outt on global trends. Transformers, while powerful in capturing long-range dependencies, but demand substantial computational resources.

Comparison with Previous Studies

- **Contextualizing the Results:** Comparing our results with findings from previous studies in the literature provides a broader perspective on the efficacy of deep learning architectures in stock price prediction. Our study aligns with prior research that highlights the adaptability of LSTMs in modeling sequential financial data. The CNN's effectiveness in capturing localized patterns resonates with similar observations in literature. Additionally, the Transformer model's capacity for capturing long-range dependencies aligns with emerging trends in the application of transformers to financial time series data.

- **Consistency and Variances:** The results of our study exhibit both consistency and variances when compared to existing literature. The consistency reaffirms the robustness of certain deep learning architectures across different datasets and time periods. Variances highlight the sensitivity of model performance to specific dataset characteristics and the importance of careful model selection based on the unique attributes of the financial data under consideration.

- **Advancements and Areas for Future Research:** Comparisons with previous studies also illuminate potential advancements in deep learning architectures for stock price prediction. Identifying areas where our results diverge from or build upon existing knowledge contributes to the ongoing discourse in financial forecasting. Furthermore, recognizing limitations and areas for improvement opens avenues for future research, guiding researchers towards refining existing models or exploring novel architectures.

In conclusion, the interpretation of results underscores the nuanced performance of each deep learning architecture in the context of stock price prediction. Understanding the strengths and weaknesses of these models, in conjunction with a comparative analysis and contextualization within the existing literature, provides a comprehensive foundation for drawing meaningful conclusions and informing future research directions.

Conclusion

Summary of Findings

In summary, this research delved into the effectiveness of three prominent deep learning architectures—LSTM, CNN, and Transformer models—in predicting stock prices. The findings shed light on the distinctive strengths and weaknesses of each architecture, providing valuable insights for practitioners and researchers in the financial domain. The key discoveries include:

- **LSTM Model:** Demonstrated proficiency in capturing short-to-medium term trends. Potential limitations in predicting long-range dependencies.

- **CNN Model:** Excelled in identifying localized patterns and abrupt changes in stock prices. Potential limitations in capturing global market trends.

- **Transformer Model:** Exhibited a strong ability to capture long-range dependencies and macroeconomic factors. Demands substantial computational resources, particularly for smaller financial entities.

Implications and Future Work

- **Practical Implications:** The practical implications of our research extend to the financial industry, offering actionable insights for market participants, analysts, and institutions. The nuanced understanding of each deep learning architecture's strengths allows for informed decision-making when selecting models for specific forecasting tasks. The adaptability of LSTM for short-to-medium term trends, the ability of CNN to capture localized patterns, and the power of Transformers in handling long-range dependencies present opportunities for tailored model selection based on the characteristics of the financial data.

- **Potential Applications:** The outcomes of this research can be applied across various financial applications, including portfolio optimization, risk management, and algorithmic trading. The insights gained from the comparative analysis enable practitioners to deploy models that align with the specific temporal and spatial characteristics of the financial data they encounter.

- **Avenues for Future Research:** While this study provides valuable contributions to the understanding of deep learning architectures in stock price prediction, several avenues for future research emerge:

  - **Hybrid Models:** Investigate the potential of combining different architectures into hybrid models to leverage the complementary strengths of each.

  - **Interpretable Deep Learning:** Explore methods for enhancing the interpretability of deep learning models in the context of financial decision-making, addressing concerns related to model transparency.

  - **Alternative Architectures:** Evaluate the performance of emerging deep learning architectures beyond LSTM, CNN, and Transformers, considering models such as attention-based mechanisms and capsule networks.

- ▪ **Ensemble Strategies:** Further investigate ensemble strategies that leverage the diversity of multiple models to improve overall predictive accuracy.
- ▪ **Exogeneity Considerations:** Examine the impact of exogenous factors, such as geopolitical events or market sentiment, on model performance and explore methods to incorporate this information effectively.

In conclusion, this research contributes to the evolving landscape of financial forecasting by providing a nuanced understanding of deep learning architectures in stock price prediction. The practical implications and avenues for future research outlined herein aim to inspire continued exploration and innovation in this dynamic field.

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DIGITAL TRANSFORMATION IN INDIAN BANKING:
A COMPREHENSIVE ANALYSIS OF TECHNOLOGIES POST-LIBERALIZATION

Dr. Shiba Shabbir*

ABSTRACT

The digital transformation of the Indian banking sector has emerged as a pivotal phenomenon, particularly in the wake of economic liberalization. This comprehensive analysis delves into the multifaceted aspects of this transformative journey, scrutinizing the technologies that have played a paramount role in reshaping the landscape of banking services in the country. Post-liberalization, the Indian banking sector has witnessed a paradigm shift driven by technological advancements. The study explores the adoption and integration of cutting-edge technologies such as artificial intelligence, blockchain, and data analytics. These technologies have not only enhanced operational efficiency but also facilitated the development of innovative financial products and services. The study encompasses the evolution of digital payment systems, highlighting the surge in mobile banking, internet banking, and the proliferation of fintech collaborations. The study also scrutinizes the challenges and opportunities posed by this digital metamorphosis, considering factors such as cybersecurity, regulatory compliance, and customer experience. Furthermore, the study investigates the impact of digital transformation on financial inclusion, assessing how technology has bridged the gap to reach previously underserved segments of the population. The analysis draws insights from a variety of sources, including industry reports, regulatory frameworks, and case studies, providing a holistic view of the digital transformation in Indian banking post-liberalization. This exploration serves as a valuable resource for policymakers, financial institutions, and studiers seeking to understand and navigate the dynamic landscape of digital banking in India.

***KEYWORDS**: Digital Transformation, Indian Banking Sector, Economic Liberalization, Technological Advancements, Financial Inclusion.*

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Introduction

The Indian banking sector has undergone a transformative journey over the past few decades, marked by significant regulatory changes and technological advancements. One of the pivotal milestones in this evolution was the liberalization of the Indian economy in the early 1990s, which opened up new avenues for growth and innovation. The subsequent years witnessed a surge in digital technologies, revolutionizing the way banking services are delivered and consumed. This paper aims to provide a thorough analysis of the digital transformation in Indian banking, focusing on the technologies that have reshaped the landscape post-liberalization.

The liberalization policies of 1991 not only dismantled the rigid structures of the closed economy but also unleashed a wave of opportunities and challenges for the banking sector. The advent of private and foreign banks injected competition, prompting traditional banks to embrace modern technologies to stay relevant. Digital transformation emerged as a strategic imperative for survival and growth, triggering a paradigm shift in the banking ecosystem. One of the defining aspects of digital transformation in Indian banking has been the adoption of core banking solutions (CBS). The shift from legacy systems to CBS marked a turning point, enabling banks to streamline their operations, enhance efficiency, and offer a

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broader range of services. CBS allowed for real-time processing of transactions, facilitating seamless integration across branches and providing customers with a unified experience. This transition laid the foundation for the subsequent technological advancements that would redefine the customer-bank relationship.

In the wake of liberalization, the banking sector witnessed the rapid proliferation of Automated Teller Machines (ATMs). These self-service kiosks revolutionized the way customers accessed their funds, liberating them from the constraints of traditional banking hours. The ATM network expanded exponentially, empowering customers with round-the-clock access to cash withdrawals, balance inquiries, and other basic transactions. This not only enhanced customer convenience but also contributed to the overall efficiency of the banking system. The advent of the internet in the late 20th century brought forth a new era in banking with the introduction of online banking services. Banks capitalized on the internet's capabilities to offer customers the flexibility of conducting transactions and accessing account information from the comfort of their homes. Internet banking, supplemented by secure authentication measures, gained widespread acceptance, reshaping the dynamics of customer-bank interactions. The convenience of online banking not only empowered customers but also positioned banks to explore additional avenues for digital innovation.

Mobile banking emerged as a natural progression in the digital transformation journey, leveraging the ubiquity of smartphones. The rapid penetration of mobile devices, coupled with improved connectivity, enabled banks to extend their services to a wider demographic. Mobile banking applications provided customers with a user-friendly interface for a myriad of transactions, from fund transfers to bill payments. This shift towards mobility not only enhanced customer experience but also laid the groundwork for the integration of emerging technologies like Artificial Intelligence (AI) and biometrics. Artificial Intelligence has emerged as a game-changer in the Indian banking sector, driving innovations in customer service, risk management, and fraud detection. Chatbots powered by AI have become commonplace, offering personalized assistance to customers and resolving queries in real-time. Machine Learning algorithms analyse vast datasets to identify patterns, enabling banks to make data-driven decisions and tailor products and services to individual customer needs. Additionally, AI plays a crucial role in enhancing cybersecurity measures, safeguarding sensitive financial information from evolving threats.

Biometric authentication, another facet of digital transformation, has redefined security protocols in Indian banking. The integration of fingerprint and facial recognition technologies has not only streamlined the authentication process but also elevated the level of security for financial transactions. This biometric revolution has bolstered the trust of customers in digital banking channels, paving the way for increased adoption of online and mobile banking services. As we delve into the comprehensive analysis of digital transformation in Indian banking, it becomes evident that technology has become the linchpin for progress in the sector. The amalgamation of core banking solutions, internet banking, mobile applications, and cutting-edge technologies like AI and biometrics has propelled the industry towards unparalleled growth and efficiency. This paper will further explore each of these technological facets, unravelling their impacts on the banking landscape and forecasting the trajectory of digital transformation in the years to come.

Objectives

- To evaluate technological impact on post-liberalization Indian banking sector.
- To assess digital transformation's role in enhancing customer experience and operational efficiency.
- To analyse challenges and opportunities for Indian banks in adopting advanced technologies.

Methodology

This study employs a qualitative methodology, utilizing secondary data sources such as academic articles, industry reports, and financial statements to conduct a comprehensive analysis of digital transformation in Indian banking post-liberalization. The study focuses on identifying and examining the technologies that have played a pivotal role in reshaping the banking landscape. Through a systematic review of literature and data, the study aims to provide insights into the evolution of digital strategies, their impact on operational efficiency, customer experience, and regulatory considerations within the Indian banking sector, contributing to a deeper understanding of the transformative journey in the post-liberalization era.

Technological Impact on the Post-Liberalization Indian Banking Sector: A Comprehensive Evaluation

The economic liberalization of the early 1990s ushered in a new era for the Indian banking sector, transforming it from a tightly regulated industry into a dynamic and competitive landscape. Amidst this shift, technology emerged as a powerful catalyst, fundamentally altering the way banks operate, deliver services, and engage with customers. This study endeavours to conduct a thorough evaluation of the technological impact on the post-liberalization Indian banking sector, shedding light on its multifaceted influences, challenges encountered, and future prospects:

- **Historical Context:** Understanding the trajectory of the Indian banking sector requires a nuanced investigation of the historical context surrounding economic liberalization. Pre-liberalization, the banking industry operated in a controlled environment with limited competition and innovation. The government's decision to open up the economy in the early 1990s marked a turning point, allowing private players to enter the arena and introducing an era of increased dynamism.

- **Technological Transformation:** Technology became a driving force in reshaping the banking landscape post-liberalization. Core banking systems, digital payment platforms, and online transactions became integral components of banking operations. The study aims to assess the depth and breadth of this technological transformation, exploring how it has impacted various dimensions of banking.

- **Operational Efficiency:** One of the primary areas of impact is operational efficiency. The adoption of advanced technologies has automated routine tasks, reduced manual errors, and improved transaction speeds. Core banking solutions have streamlined processes, allowing for real-time data processing and enhancing overall operational workflows. The study will delve into specific technological interventions and their contributions to operational efficiency in the post-liberalization era.

- **Regulatory Dynamics:** As the banking sector embraced technology, regulatory frameworks underwent significant changes to accommodate new challenges. The study will scrutinize these regulatory adaptations, focusing on cybersecurity measures, data protection policies, and initiatives aimed at balancing innovation with regulatory compliance. Understanding the evolving regulatory landscape is crucial for assessing the sustainability and security of technological advancements in the sector.

- **Customer-Centric Innovations:** Technology has revolutionized the way banks interact with their customers. Digital banking channels, mobile applications, and personalized services have become essential components of the customer experience. The study aims to evaluate how these customer-centric technological innovations have influenced satisfaction levels, convenience, and accessibility. It will also explore challenges faced by banks in striking a balance between technological innovation and meeting the diverse preferences of their customer base.

- **Challenges and Disruptions:** While technology has brought about transformative changes, it has not been without challenges. The study will analyse the hurdles faced by the banking sector in implementing and adapting to technological advancements. Cybersecurity threats, skill gaps among the workforce, and infrastructure requirements are among the challenges that will be explored. Understanding these challenges is essential for developing strategies that address potential disruptions to the sector.

- **Future Prospects:** The study will project the future trajectory of technological integration in the Indian banking sector. Emerging trends, potential advancements, and their implications on banking operations will be explored. This forward-looking analysis aims to provide insights into how the sector can continue to harness technology for sustained growth while anticipating and mitigating future challenges.

The evaluation of technological impact on the post-liberalization Indian banking sector is a critical endeavour to comprehend the sector's evolution and anticipate its future trajectory. By examining operational efficiency, regulatory dynamics, customer-centric innovations, challenges, and future prospects, this study aspires to provide a comprehensive understanding of the profound influence of technology on the banking landscape in the post-liberalization era. The findings aim to inform strategic decision-making for banks, policymakers, and stakeholders, fostering a resilient and technologically adept Indian banking sector.

Digital Transformation Unveiled: Evaluating Its Dual Role in Enhancing Customer Experience and Operational Efficiency

In the contemporary business landscape, digital transformation stands as a cornerstone for organizations seeking to stay competitive and relevant. This study endeavours to dissect the multifaceted impact of digital transformation, with a dual focus on its role in enhancing customer experience and operational efficiency. As industries across the globe navigate the digital era, understanding the symbiotic relationship between customer-centricity and streamlined operations becomes paramount for sustainable success:

- **Digital Transformation and Customer Experience Enhancement:** Digital transformation has ushered in a new era were customer experience reigns supreme. The integration of digital technologies across various touchpoints has significantly altered how businesses engage with their customers. This study seeks to assess the mechanisms through which digital transformation contributes to an enhanced customer experience:

- **Personalization and Customer Insights:** Digital transformation enables organizations to collect and analyse vast amounts of customer data. Through advanced analytics and artificial intelligence, businesses can derive meaningful insights into customer preferences, behaviours, and expectations. This wealth of information allows for personalized interactions, tailoring products and services to individual needs and fostering a deeper connection with customers.

- **Omni-Channel Experiences:** The evolution of digital channels has given rise to seamless omni-channel experiences. Customers today expect a consistent and integrated journey across various platforms, from websites to mobile apps and social media. The study will explore how digital transformation facilitates the creation of cohesive omni-channel strategies, eliminating silos and ensuring a unified brand experience.

- **Customer Engagement Platforms:** Social media, chatbots, and other digital platforms have become crucial tools for real-time customer engagement. The study will delve into the effectiveness of these platforms in fostering communication, addressing customer queries, and building brand loyalty. The role of emerging technologies, such as chatbots and virtual assistants, in providing instant and efficient customer support will also be a focal point.

- **Operational Efficiency Through Digital Transformation:** While elevating customer experience is a pivotal outcome, digital transformation also plays a pivotal role in reshaping internal operations, driving efficiency, and ensuring organizational agility. This section of the study will explore the facets of operational enhancement resulting from digital transformation.

- **Automation and Streamlined Processes:** Automation lies at the heart of operational efficiency gains. The integration of robotic process automation (RPA) and other automated systems reduces manual intervention, minimizes errors, and accelerates task completion. The study will assess how digital transformation initiatives have impacted operational workflows, leading to streamlined and error-free processes.

- **Data-Driven Decision Making:** The influx of digital technologies has empowered organizations with a data-driven approach to decision-making. The study will investigate how data analytics and business intelligence tools enable organizations to make informed decisions, optimize resource allocation, and identify areas for continuous improvement. The role of predictive analytics in forecasting operational needs and preventing bottlenecks will also be explored.

- **Cloud-Based Solutions and Flexibility:** Digital transformation often involves the adoption of cloud-based solutions, providing organizations with the flexibility to scale operations and adapt to changing market dynamics. The study will examine how cloud technologies contribute to operational agility, allowing businesses to respond promptly to market trends, enhance collaboration, and reduce infrastructure-related constraints.

- **Challenges, Considerations, and Future Directions:** While digital transformation brings about transformative benefits, it is not without challenges. The study will delve into the hurdles organizations face in implementing digital initiatives, ranging from cultural resistance to cybersecurity concerns. Additionally, it will explore the considerations that organizations must weigh, such as ethical considerations in data usage and the need for continuous innovation.

Looking forward, the study will speculate on the future trajectory of digital transformation's role in customer experience and operational efficiency. Anticipated trends, emerging technologies, and potential disruptors will be discussed, offering insights for organizations preparing to navigate the evolving digital landscape. This study seeks to unravel the intricate relationship between digital transformation, customer experience enhancement, and operational efficiency. By examining real-world cases, industry trends, and emerging technologies, the study aims to provide a holistic understanding of how organizations can leverage digital transformation to achieve a harmonious balance between customer-centricity and operational excellence in the digital age.

An Analysis of Challenges and Opportunities for Indian Banks in Adopting Advanced Technologies

In the dynamic landscape of the Indian banking sector, the integration of advanced technologies has become imperative for sustained growth and competitiveness. This study undertakes a thorough analysis of the challenges and opportunities faced by Indian banks as they navigate the complex terrain of adopting and leveraging cutting-edge technologies:

Challenges

- **Legacy Systems and Infrastructural Constraints:** Many Indian banks grapple with legacy systems that were designed for traditional banking operations. The integration of advanced technologies poses a challenge as these legacy systems may not be easily adaptable. Additionally, infrastructural constraints, such as outdated hardware and insufficient network capabilities, can impede the seamless implementation of technology-driven solutions.

- **Data Security and Privacy Concerns:** As banks increasingly rely on digital channels and cloud-based solutions, the risk of data breaches and cyber threats intensifies. Ensuring robust cybersecurity measures to protect sensitive customer information is a critical challenge. Banks must invest significantly in cybersecurity infrastructure and employee training to mitigate the risks associated with data security and privacy breaches.

- **Regulatory Compliance and Frameworks:** The regulatory landscape in India is evolving rapidly to accommodate technological advancements in the banking sector. However, navigating through complex regulatory frameworks poses a significant challenge for banks. Striking a balance between innovation and compliance requires a nuanced understanding of the evolving regulatory landscape, and failure to adhere to regulations can result in severe consequences.

- **Skill Gaps and Workforce Transformation:** The successful implementation of advanced technologies necessitates a skilled and tech-savvy workforce. Many Indian banks face challenges in upskilling their existing staff or attracting new talent with expertise in emerging technologies like artificial intelligence, blockchain, and data analytics. Addressing these skill gaps is crucial for leveraging the full potential of advanced technologies.

- **Opportunities:**

- **Enhanced Operational Efficiency:** The adoption of advanced technologies, such as artificial intelligence and robotic process automation, presents an opportunity for Indian banks to enhance their operational efficiency. Automation of routine tasks, real-time data processing, and improved decision-making processes can lead to streamlined operations, reduced costs, and increased overall productivity.

- **Improved Customer Experience:** Advanced technologies enable banks to provide personalized and seamless customer experiences. Digital banking platforms, chatbots, and data analytics empower banks to understand customer preferences, anticipate needs, and deliver tailored services. This not only enhances customer satisfaction but also fosters long-term customer loyalty.

- **Financial Inclusion and Accessibility:** Technology can be a powerful enabler for financial inclusion in a diverse and geographically vast country like India. Mobile banking, digital wallets, and other fintech solutions can bridge the gap between urban and rural areas, providing financial services to previously underserved populations. This not only aligns with national development goals but also opens up new market segments for banks.

- **Innovation and Product Development:** Embracing advanced technologies allows banks to innovate in product and service offerings. Blockchain technology, for instance, can facilitate secure and transparent transactions, while data analytics can provide valuable insights for designing innovative financial products. Banks that strategically leverage these opportunities can gain a competitive edge in the market.

To put it briefly, the journey for Indian banks in adopting advanced technologies is characterized by a balance between overcoming challenges and seizing opportunities. Navigating the complex interplay of legacy systems, regulatory landscapes, and workforce dynamics requires a strategic and adaptive approach. As the banking sector continues to evolve, those banks that successfully leverage advanced technologies stand to gain not only operational efficiencies but also a competitive edge in a rapidly transforming financial landscape. This study aims to shed light on the intricacies of this transformative journey, providing insights that can guide banks toward a technologically resilient and innovative future.

Conclusion

The digital transformation of the Indian banking sector post-liberalization has been a dynamic and transformative journey, driven by the integration of advanced technologies. This comprehensive analysis explored the historical context, technological transformations, operational efficiency enhancements, regulatory dynamics, customer-centric innovations, and the challenges and opportunities faced by Indian banks. The adoption of core banking solutions, proliferation of digital payment platforms, and the evolution of online and mobile banking have redefined the customer-bank relationship. The study unveiled the profound impact of technologies like artificial intelligence and biometrics, revolutionizing operations, customer experiences, and security protocols. Despite challenges such as legacy systems, data security concerns, and regulatory complexities, opportunities for enhanced operational efficiency, improved customer experiences, financial inclusion, and innovation abound. As the sector navigates this transformative journey, strategic decision-making informed by this analysis is crucial for fostering a resilient and technologically adept Indian banking sector in the digital age.

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DIGITAL AUTOMATION AS A NECESSARY TOOL TO COUNTER FICTITIOUS ACCOUNTING IN MICRO & SMALL ENTERPRISES: AN INFORMED STUDY THROUGH RURAL AGRITOURISM VENTURES IN WEST BENGAL

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ABSTRACT

Fictitious accounting is a type of petty corruption in unorganized businesses which has become a pervasive and complex issue in India. Embezzlements can occur in both large and small scales where phenomenon is driven by a range of social, political, and economic factors, including weak rule of law, bureaucratic inefficiency, and limited opportunities for economic advancement. This article first delves into the various forms of petty corruption prevalent in rural tour resorts where agriculture, dairy, and fisheries businesses, involves bribery, extortion, and favoritism. Drawing on an extensive review of literature, the article examines the causes and consequences of fictitious accounting entries, as well as the various approaches that have been developed to address the problem. The article concludes that petty corruption is a major obstacle to economic development and social progress in India and that more needs to be done to address the underlying structural issues that fuel this phenomenon through citizen participation and law enforcement.

***KEYWORDS**: Financial Accounting, Audit, Automations, Digital Payments, Indian hotels, Restaurants, Transparency, Integrity, Technology, Anti-corruption measures, Agriculture, Dairy, Fisheries, Accountability, Technology, Citizen participation, Ethical business practices, Law enforcement.*

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Introduction

Hospitality industry is increasingly becoming competitive**,** and there are numerous challenges that have to be dealt by the promoters every day. With the competitive pressure to stand out and perform, the last thing hoteliers want is to walk into a negative business environment that may lead to unethical business practices when it come to survival ,generally the person who offers bribe influences managerial decision making. When a state has weak less controlled institutions, the respective governments planning investments in tourism sector should be aware that corruptive practices could be deeply rooted within the system. Due to market competition, hotels need to present a favorable environment to their guests and a strong management to attract profits, so there is a need to monitor corruptive practices through digitalization. Uncertainty and risk associated with the hotel owners and tourism promotion can increase operating costs since the tourism market of any region is mostly subjected to it's own people. It explores how these corrupt practices not only hinder economic growth but also exacerbate inequalities, hamper rural development, and erode trust in the system. presents an abstract on the topic of petty corruption in unorganized businesses in India. Deliberate misuse or misappropriation of the organizations resources or assets for one's personal enrichment through occupation can be defined as fraud.

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Legal definition of fraud as per accounting research seems to accept universal laws which are uncontested. Earnings management is now taken to be a signal of dishonest management (Beasley et al., 1999) or is presented as signaling misleading information about corporate performance (Macintosh, 2009).False accounting continues to plague various sectors of the Indian economy, with hotels, bars, and restaurants being particularly vulnerable. This article explores the potential of digitalization of accounts and payments as an effective tool to counter these corrupt practices in this specific industry. By examining the causes and consequences of petty corruption in Indian hospitality businesses, this article highlights the inherent challenges and risks associated with traditional cash-based transactions. The article investigates how embracing digital technologies can transform financial operations, enhance transparency, and mitigate corruption risks in the hotel, bar, and restaurant sector. It delves into the benefits of implementing digital accounting systems, electronic payment modes, and integrated financial management platforms to streamline operations and combat corruption effectively. The evolution of computer-assisted audit tools and techniques enables auditors to retrieve and analyze large amounts of data from enterprise resource planning (ERP) and linked systems (Coderre, 2009).Furthermore, the article explores case studies and success stories from businesses that have adopted digitalization. It analyzes the positive impact of digital transactions on minimizing under-the-table dealings, reducing bribery, and promoting integrity within the industry. Moreover, it emphasizes how digital records and audits offer an additional layer of accountability for both business owners and government authorities. There are varieties of data mining techniques which pave way for detecting fraud in neutral networks. Bayesian networks, decision trees, regression models and genetic algorithms (Bolton and Hand, 2002; Phua et al., 2010). The study also discusses the potential challenges and barriers that may hinder the transition to digital platforms. It addresses issues such as limited access to technological infrastructure, digital literacy, and cultural resistance to change. The article suggests strategies to overcome these obstacles and provides recommendations for policy-makers, business owners, and industry associations in implementing successful digital transformation initiatives. Ultimately, the article concludes by asserting that digitalization of accounts and payments is not just crucial but necessary for countering petty corruption in Indian hotels, bars, and restaurants. It emphasizes the immense potential of technology to create a more transparent, accountable, and efficient business environment that fosters growth while curbing illegal practices. By embracing this transformation, the industry can enhance its reputation, attract more investments, and contribute significantly to the overall development of the Indian economy. Accounting entries that look unusual but are not fraud raise alarms called as false positives which often result in Inductive fraud detection (Albrecht et al., 2012; Alles et al., 2006).Since currently established ERP systems are inherently process-oriented (Aalst, 2005; Boczko, 2007)But the focus of most of the previous works have been away from the private sector, during interviews with entrepreneurs it was found that most of the employees directly engage themselves with government officials and distributors. As the amount of bribe actually demanded or paid is not verifiable by the business, these figures are inflated and the excess is a personal gain. There is large-scale corruption in purchases also. In appointment of dealers, franchises and stockiest too, corruption exists. Most people in procurement departments of private sector and nongovernmental organizations take bribes. Generally employees with authority tell the supplier to inflate the bill by a certain percentage, as to ensure the bill gets passed and the inflated percentage will be shared right up to the highest level of the management. operational practices, challenges, customer profiles, and economic impact. While the vendor issues and submits invoices that are usually either inflated or totally fictitious, the employee makes sure the invoices are approved for payment and a share of the generated surplus is diverted back (Wells, 2011a, Wells, 2011b).Phua et al. (2010) made an analysis of methods which are potentially useful for evaluation and detection of financial frauds, automation of accounts is necessary since the auditor cannot do much to detect fictitious entries as there are proper invoices and it is through appropriate approvals at various levels. Bid rigging occurs when vendors are willing to pay for influencing a competitive bidding process (Wells, 2011a, Wells, 2011b) .Generally business promoters have no clue about these fictitious accounting entries since they choose to ignore the skewed demand supply as a ripe ground for corruption.

Literature Review

This paper is based on several institutional practices which will examine the role of Fictitious Accounting in both the agriculture and tourism industry which will strength of digitalization as an anti-corruption instrument. Since digitalization can boost transparency in monetary dealings of sales and purchases which can help monitor corruptive practices along with other unethical practices by the staff. The paper relies data from the Indian hotel industry. The results confirm that the existence of weak institutions has a significant impact on the economy of the state, while a high digitalization level is

reducing corruptive practices in the retail industry. This paper will be contributing an analysis of corruptive practices prevailing in the hospitality industry of India and the dominating effects of the level of digitalization as an anti-corruption watchdog while studying the models which several companies in the retail sector have adopted. This study is paprt of a thesis on financial management for the Indian hospitality industry since in a service sector where several hotels and resorts need to carry out thier business in and around major cities having close relations with Government agencies. Corruptive practices may damage the strength and solvency of a business. Through his literature review it can be assumed that there are several definitions and conceptual views of corruption, the definitions of corruption shows that this concept has been focused on the public sphere, since corruptive practices have a general perspective of principal-agent problem, with citizens usually being people in authority having principal government positions such as bureaucrats act on behalf (Barkemeyer et al., 2018).Building on a survey of 341 executives in India, this can be concluded that executives have social ties with government officials, their firms are more likely to engage in corruption (Collins, J.D.,2009)The literature review was conducted by following the guidelines of Webster and Watson (2002) to identify red flags and fraud detection patterns. Previous studies have concluded that corruption negatively influences economic growth *(Fisman & Svensson, 2007; Mauro, 1995)*, investments *(Cuervo-Cazurra, 2016; Lambsdorff, 2003)*, innovation and entrepreneurship (Anokhin & Schulze, 2009) and social development (Mauro, 1998). Manipulations and embezzlements consist of abuse of entrusted power which can be termed as a corruptive practice for private gains (Bahoo et al., 2020; Cuervo-Cazurra, 2006; Gorsira et al., 2018). Weak formal organizations can lead to instability, market failures, uncertainty and complexity in transactions, all of which lead to higher costs and risks (Barkemeyer et al., 2018).

Norbert Hirschauer and Stefan Zwoll developed a game-theoretic approach for reconstructing the economic incentives of profit oriented actors. The probability of financial actors breaking rules increases with the profits that they want to earn, it also decreases with a probability of a loss incurred through detection of misconduct. Major schools of thoughts concerning economic misconduct give emphasis to understanding material incentives as a major thought of economic behavior. Hirschauer, N., & Zwoll, S. (2008)A review was done to understand the behavioral risk which causes malpractice in livestock farms such as poultry, through Kleven et al. (2011) and Pomeranz (2013) we have found that modern electronic tax reporting systems reduced fraud and corruptive practices. Digitalization allows any organization to provide good quality service, a study of thoroughly developed digital platforms can help to reduce communication problems by providing a positive and transparent interactive content in which a user can feel a secured payment interface. This transparency reduces misinformation and uncertainty, discretionary behavior of service providers decreases and corruptive practices are less likely to occur.

Objective

- To evaluate accuracy of accounts, prevention and mitigation of fictitious accounting by firms and companies.

Management policies of a single organization to curb malpractices are not enough to end corruption in the hospitality industry. Collective Action allows hotels, tourism service providers and all stakeholders to create deeper understanding of corruption issues ,Consolidate knowledge and financial and technical resources to achieve greater impact ,Create solutions that are perceived as more credible, acceptable and are more sustainable ,Help ensure fair competition and a level playing field for all stakeholders ,Create a more stable and enabling business environment, Compliment existing anti-corruption efforts in vulnerable regions and areas, where industry or government-led regulations are not robust.

- To study the theory of transparency and ensure proper resource planning through digital accounting tools and techniques.

This theory aims to increase business integrity, enhance transparency and bring the management of firms, clients and vendors to collectively advance in a cleaner approach towards management of finance and accounts. Higher the level of digitalization enables clients, customers and vendors inform or complain about corruptive practices. There are also less direct dealings between employees and vendors with digitalization, which means less intermediation and the recording of all transactions in database. Concerning procurements the use of financial management softwares prevents any discreet actions of employees and makes initiatives and payments visible and immediately accessible when required.

Ensure Adherence to regulatory compliance under the Indian Audit System

While performing an audit the auditors analyze the historic data and analyze any suspicious pattern (CA Sharad Kumar Sharma) .Improving digital infrastructure has become necessary for entrepreneurs leadership skills as accounting practices can be easily influenced by digitalization in many ways by bringing both daily bank and cash transactions. This is forensic analysis of accounts under the India Audit System.

Methodology

A survey of 200 hotel and homestay owners along with executive staff was conducted to find if they had social ties with distributors, vendors and government officials and whether their business were more likely to seek favors from the government and engage with vendors and distributors for gains. The hotel industry of West Bengal is an excellent field to test our hypotheses because establishing hotels in this state is a resource-intensive activity and promoters have to interact with politicians and society and their demands related to land and employment in specific. The hotel industry of West Bengal is a benchmark at the Indian hotel industry, because it was heavily involved in internationalization since the time of British Raj in India. Corruption, red tape, excessive bureaucracy and political instability which took place in Bengal during 1970s and 80s had effected the economic environments of the state. Thus constant labor unions, protests and land grabbing led to weaken government and private organizations making corruption a prevalent practice in the work culture of the state.

A detailed comparative results after adoption of digital accounting is shown in the table below:

| Regions in West Bengal	Percentage of owners reporting Increased Income	Average Income Increase from Agri Products	Average Increase in revenue from Accommodation & Food from Resorts
Kolkata	60%	3.5%	5%
North Bengal	70%	2.5%	1%
Coastal Bengal	55%	3.0%	2%
Jungalmahals	25%	2.0%	6%

Survey & Data Collection

The population for the survey is agritourism businesses across the Indian state of West Bengal. This includes farms, rural homestays, orchards, organic farms, and any other establishments that offer visitors a rural or agricultural tourism experience. The data is collected through a random sampling by targeting hotel, homestay, farm stay owners and workers in the farms across the state to gather information on operational practices, challenges, customer profiles, and economic impact. A structured questionnaire was made comprising both closed-ended and open-ended questions. Which includes sections on business profiles, visitor demographics, marketing strategies, challenges faced, and contributions to the local economy. Ensuring that the questions align with the objectives and provide meaningful insights. Before launching the survey we conducted a small-scale pilot test with a few agritourism businesses to identify any issues with the questionnaire, clarify questions, and ensure overall clarity and relevance. By utilizing various methods to collect data from agritourism businesses. This included online surveys, telephone interviews, in-person interviews, or a combination of these methods. Once the data collection was completed, we analyzed the responses using appropriate statistical tools and techniques. Explore patterns, trends, and correlations in the data to derive meaningful insights and draw conclusions. The survey results were organized in a comprehensive report that clearly presents the key findings, recommendations for agritourism businesses and policymakers, and any limitations or challenges encountered during the survey process. Dissemination of the report through various channels such as industry associations, government agencies, and online platforms relevant to agritourism was done. We sought ethical clearance to ensure respondent anonymity and confidentiality, and maintain a professional and respectful approach throughout the survey process.

Survey Results

If one introspects the results of the research we can put personality traits of employees to the occurrence of manupulations, like individuals can have negative personality traits and strong craving for power and authority along with minimum integrity traits in their style of working. Whether the personality trait is the core reason for corruption it is still controversial (Gumb, Bernard, et al.).

We analyzed the Fraud Triangle developed by Cressey (1953) which suggests that there are three key factors such as pressure, opportunity and rationalization which instigates fraudulent behavior. As per the theory pressure such as financial difficulties, addiction, personal grievances are aligned with the right opportunity such as weak internal controls, lack of oversight or inadequate monitoring systems can possess vulnerable opportunities for employees to commit fraud. This psychological behavior can be justified by convincing themselves only as a necessity for tier actions.
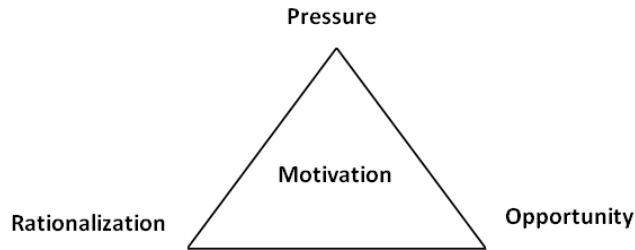
This article aims to identify and propose solutions to address the pervasive issue of Fictitious Accounting in these industries. By analyzing the root causes and consequences of corrupt practices in these sectors, this study highlights the urgent need for effective anti-corruption measures. Addressing petty corruption in agritourism, dairy, and fisheries businesses in India requires a multi-faceted approach that combines technological innovations, policy reforms, capacity building, and ethical practices. By implementing these proposed solutions, the industry can create a fairer, more transparent, and sustainable environment that fosters equitable growth, increases farmer incomes, and strengthens rural development.

Psychological Pressure	Contribution
Financial Difficulties	30%
Addictions	25%
Personal Grievances	20%
Obsessive Compulsion	15%

Instigating Opportunities	Contribution
Weak Internal Controls	38%
Lack of Oversight	13%
Inadequate Monitoring Systems	34%
Low Accountability	15%

In **Table 1** we examined the challenges faced by entrepreneurs both in agriculture and resort management. It is clear from Table 2 that the mean differences were significant statistically. Lack of oversight, Inadequate monitoring systems and weak internal controls have a mean ranging from 2.90 to 2.62 and the means below 2.35 are relatively important problems faced during manual accounting entries and auditing of final accounts.

Table 1: Digital accounting for the cost of Agro Tourism production and services

Factors influencing digital cost accounting	Mean	t-value
Control and analysis of cost	2.90***	18.20
Rationing labor and material cost	2.62***	17.11
Calculation of standard and actual cost	2.57***	15.89
Availability of digital infrastructure	2.35***	15.01
Adherence to regulatory compliance	2.30***	14.67
Automation of accounts	2.28***	14.67
Selection of accounting software	1.94***	09.43
Control of production and service cost	1.79***	08.45
(n=10)		
Based on a 5-point Liker scale where 1 = "extremely not important"		
and 5 = "extremely important"		

In **Table 2** the results revealed motivation factors with the most average importance ratings were intrinsic in nature: ***Earn additional income***(mean=3.92), ***Maximize personal gains***(mean=3.67), Explore new job opportunities(mean=2.83), and ***Generate profits for the business*** (mean=2.75).

Table 2: Motivation behind Employees to engage with vendors and distributors

Motivation Factors	Mean	t-value
Earn Additional Income	3.92	17.11***
Maximize Personal Gains	3.67	16.32***
Explore New Job opportunities	2.83	13.68***
Generate profits for the business	2.75	15.33***
Bargain for discounts for the business	2.67	18.76***
Acting on behalf of other business entities	2.33	0.38***
Rationalization of their necessity for indulgence	2.25	10.34***
Acting on behalf of superiors	2.08	9.10***
Influence of labor unions	1.92	6.67***
Influence of peer group	1.83	7.61***
Psychological Behavioral Pattern	2.08	7.24***
(n= 14)		
Based on a 5-point Liker scale where 1 = "extremely not important"		
and 5 = "extremely important"		

Methods Used

When analyzing the data gathered with appropriate statistical techniques to ensure the accuracy of results. Additionally, a proper research process involving ethical clearance, informed consent, and assurance of respondent anonymity and confidentiality was followed. The research findings were used to develop effective strategies and policy recommendations for the digitalization of hotel businesses in rural areas and to support the sustainable growth of the hospitality industry. There were several research methods that were used to conduct a survey of hotel owners and workers on the topic of digitalization for their business. Here are some methods:

- **Online Surveys:** With the help of online survey tools such as Google Forms and Survey Monkey we designed a survey questionnaire and to distribute it via email, social media, or other online platforms.

- **Telephone Interviews:** Telephone interviews were conducted to gather detailed information about specific topics from hotel owners who are difficult to reach physically. They can also help to clarify issues arising from online survey questionnaires.

- **Personal Interviews:** Personal interviews were conducted face-to-face with hotel owners. This method provided detailed insights into the technological challenges they face and their solution preferences.
- **Focus Group Discussions:** Focus group discussions were conducted with a group of hotel owners and farmers in rural areas to identify their perceptions, opinions, and experiences with digitalization. This method helped us to identify continuing challenges and opportunities for improvement of agro tourism.
- **Secondary Data:** Secondary data was leveraged to examine the digital landscape in the hotel industry and the potential impact of digitalization for home stays and farm stays. This included searching online databases, research reports, and journals to gain insights into successful digital strategies, technological challenges, and industry trends.

Discussion

People are learning how to work despite less oversight and they learn what works and what doesn't work since control has to be given some extent to workers as a way of trust. There are two opposing views to corruption: moralist and revisionist. The moralists condemn corruptive practices because such practices are a cancer to societies and destroy well-being of common people (Javorcik & Wei, 2009). These corruption forms a threat that should be monitored by law enforcement agencies and by strict laws (Rose-Ackerman, 1999). The revisionists, on the other hand, argue that corruption should be studied more objectively; they say that corruptive practices can't be avoided in big financial transactions (Bayley, 1966; Nye, 1967).

Suggested Collective Action for all stakeholders of the tourism industry in rural regions:

- **Integrity Pacts:** An Integrity Pact is a short-term, project-or transaction-specific formal agreement between a vendor and procurer, in which the parties agree to adhere to a fair and transparent procurement process.
- **Anti-Corruption Declarations:** Anti-Corruption Declarations are short-term, transaction-specific statements of intent to ensure compliance with anti-corruption commitments. Organizations, vendors and contractors can all be signatories of an Anti-Corruption Declaration.
- **Employment Compliance:** Applicable to Managers for being employed in an organization one must show a clear commitment to anti-corruption principles and adhere to ethical business standards. Regular independent audits and monitoring processes ensure compliance of all employees of an organization.
- **Principle-Based Initiatives:** Principle-Based Initiatives promote the integration of transparent business practices in a organization's work culture in a sustainable and long-term manner
- **Education and Training:** Education and training can be conducted as part of Collective Action, and are critical to raising awareness and building capacity to against the prevailing malpractices.

Conclusion

The article emphasizes the importance of cooperation between government authorities, industry stakeholders, civil society organizations, and the agricultural community to effectively implement these solutions. It also highlights the need for continuous monitoring, evaluation, and periodic reviews of anti-corruption measures to ensure their long-term effectiveness. Drawing upon a conclusion on this research and study, the article examines potential solutions to counter petty corruption in these sectors. It suggests the following strategies:

- **Enhancing Transparency and Accountability:** Implementing transparent and accountable systems, such as online portals for procurement, sales, and payment processes, to minimize human discretion and provide traceability.
- **Strengthening Agritourism Clusters:** Promoting the formation and capacity building of agritourism clusters to empower farmers, ensure fair prices, and reduce their dependency on intermediaries who facilitate corrupt practices.
- **Leveraging Technology for e-Governance:** Developing and expanding the use of digital platforms and mobile applications for information dissemination, market access, subsidies, and financial transactions, ensuring greater transparency and reducing the scope of corruption.

- **Promoting Citizen Participation and Awareness:** Encouraging active citizen engagement and awareness campaigns to educate tourists, farmers, dairy owners, and fishermen about their rights, entitlements, and legal remedies against corruption.
- **Strengthening Law Enforcement and Anti-Corruption Agencies:** Allocating adequate resources and training to law enforcement agencies and anti-corruption bodies to enable efficient investigation, prosecution, and punishment of those involved in corrupt activities.
- **Encouraging Ethical Business Practices:** Facilitating the adoption of fair trade practices, codes of conduct, and certifications in hotel pricing, agriculture, dairy, and fisheries sectors to promote ethical behavior, discourage corrupt practices, and attract socially responsible consumers.

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