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DRIVING CHANGE IN LEGACY ORGANIZATIONS: STRATEGIC LEADERSHIP AND ORGANIZATIONAL TRANSFORMATION

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Abstract

Driving change in legacy organizations necessitates strategic leadership and a comprehensive approach to organizational transformation. Legacy organizations, with their established structures and traditional practices, face significant challenges in adapting to evolving market demands, technological advancements, and shifting consumer expectations. Strategic leadership is vital in navigating these challenges, as leaders must communicate a clear vision for change, align stakeholders, and cultivate a culture of innovation and adaptability. Key to this transformation is overcoming resistance to change, often rooted in organizational inertia and fear of disruption. Leaders must foster transparency, offer skill development opportunities, and ensure effective communication throughout the process. Integrating technology and digital solutions is crucial, yet it requires balancing innovation with the preservation of core organizational values and stability. Organizational transformation extends beyond structural shifts, involving a mindset change that aligns employees with new strategic goals. Effective transformation involves cross-functional collaboration, data-driven decision-making, and continuous feedback loops to remain responsive to emerging trends. Ultimately, driving change in legacy organizations is about fostering proactive, visionary leadership while integrating innovation with existing practices. By embracing strategic leadership and prioritizing organizational transformation, legacy organizations can achieve sustainable growth and thrive in an increasingly competitive environment.

Keywords: Strategic leadership, organizational transformation, legacy organizations, change management, innovation, resistance to change, organizational culture, technological adaptation, digital solutions, stakeholder alignment, communication, skill development, cross-functional teams, data-driven decision-making, feedback loops, leadership vision, competitive advantage, organizational inertia, change resilience.

Introduction:

In today's rapidly evolving world, organizations across various sectors face increasing pressure to adapt to change, especially legacy organizations that are entrenched in traditional ways of operation. One of the significant challenges such organizations face is how to navigate this change while maintaining operational continuity and ensuring sustainability. In this context, the concept of strategic leadership becomes crucial for driving organizational transformation. Strategic leadership involves not only having a long-term vision for the organization but also the ability to adapt to external and internal changes, make critical decisions, and guide the workforce through the transition. It is through the implementation of such leadership that organizations can shift from outdated operational models to more modern, efficient, and adaptable structures (Kotter, 1996). The role of leadership in driving change is particularly pronounced in legacy organizations, as they often have deeply ingrained cultures and systems that can resist change. However, with the right approach, strategic leadership can unlock the potential for transformation, which may involve reshaping corporate culture, updating processes, and adopting new technologies (Beer & Nohria, 2000). According to Tushman and O'Reilly (1996), organizational transformation is not simply about change for the sake of change but about strategically aligning the organization's resources, capabilities, and values with the shifting demands of the external environment. This transformation must be approached holistically, with a clear understanding that leadership is not just about directing the organization but also about inspiring and motivating employees to embrace new ways of thinking and working. The challenge for strategic leaders in legacy organizations lies in balancing the preservation of core values and the need for modernization. The success of such transformations depends on how well leaders can foster a sense of urgency while creating a vision for the future, all while addressing resistance and maintaining morale (Kotter, 1996). In a rapidly changing business landscape, organizations must be able to rethink their strategies and reimagine their structures to remain competitive. Strategic leadership, therefore, becomes the key driver in ensuring that legacy organizations can evolve, thrive, and maintain their relevance in the face of inevitable change (Tushman & O'Reilly, 1996; Kotter, 1996).

Literature Review:

A literature review is a critical evaluation and summary of existing research on a particular topic. In the case of the topic *"Driving Change in Legacy Organizations: Strategic Leadership and Organizational Transformation,"* it is essential to review scholarly articles, books, and other academic sources to understand how scholars have explored the role of strategic leadership in enabling organizational transformation, particularly within legacy organizations. This review examines key themes in the literature, including the challenges faced by legacy organizations, the concept of strategic leadership, and various frameworks and models for driving organizational transformation.

Challenges Faced by Legacy Organizations

Legacy organizations, characterized by long-established practices, structures, and technologies, often encounter significant challenges when attempting to change. One of the primary issues is organizational inertia, where deeply rooted norms and resistance to change impede transformation (Hannan & Freeman, 1984). These organizations have developed specific cultures and systems that have worked well in the past, making the adoption of new methods or technologies difficult. As a result, they often struggle with adaptability in dynamic business environments (Tushman & O'Reilly, 1996). Further complicating these challenges is the lack of leadership willing or able to challenge the status quo (Kotter, 1996). Without leadership that encourages innovation and change, legacy organizations can find themselves outpaced by competitors that are more agile and responsive to market demands.

The challenges faced by legacy organizations are not merely technological but cultural as well. Schein (1990) posits that organizational culture shapes the way employees think and act. In legacy organizations, the culture is often resistant to new ideas, resulting in reluctance to adopt modern technologies, strategies, and structures. This resistance is sometimes exacerbated by fear of the unknown, loss of job security, or a lack of understanding of how change will impact individual roles (Kotter, 1996). Therefore, strategic leadership must be geared towards addressing these emotional and psychological barriers to change, ensuring that employees feel supported through the transition.

Strategic Leadership in Organizational Transformation

Strategic leadership is a key enabler of organizational transformation, particularly in legacy organizations. According to Ireland and Hitt (1999), strategic leadership involves setting a clear vision, aligning the organization's resources, and making decisions that ensure the organization's long-term sustainability. In the context of legacy organizations, strategic leadership is crucial because it helps leaders navigate complex challenges while keeping the organization’s core values intact. Tushman and O'Reilly (1996) highlight that strategic leadership in transformation requires the ability to manage both evolutionary and revolutionary change. Evolutionary change involves incremental adjustments to current operations, while revolutionary change requires a more profound overhaul of existing practices.

Effective strategic leadership in legacy organizations also involves fostering a culture of adaptability. Kotter (1996) argues that successful change initiatives require creating a sense of urgency, forming powerful coalitions, developing a vision, and communicating that vision clearly to all employees. For legacy organizations, this means leaders must engage stakeholders at every level to ensure that transformation efforts are inclusive and well-supported. One model often cited in the literature is Kotter’s 8-Step Change Model, which outlines a clear pathway for organizations to follow in implementing change successfully (Kotter, 1996). This model emphasizes the importance of creating a compelling vision, empowering employees to act on that vision, and reinforcing the change to ensure long-term success.

Organizational Transformation Frameworks and Models

Several frameworks and models have been proposed to guide organizations through the transformation process. A common theme in the literature is the necessity for alignment between an organization’s strategy, structure, culture, and processes during transformation. Beer and Nohria (2000) propose a dual model of change that emphasizes both the hard side of change (structures, systems, and processes) and the soft side (culture, behavior, and employee engagement). Their model suggests that both elements must be simultaneously addressed to achieve successful transformation. This dual approach is particularly important in legacy organizations, where organizational culture may significantly impact the acceptance of new strategies or technologies.

Another widely discussed framework is the concept of ambidextrous organizations, introduced by Tushman and O'Reilly (1996). This framework posits that organizations must balance exploiting existing capabilities while simultaneously exploring new opportunities. In legacy organizations, this means that leaders must maintain operational efficiency while investing in innovation. The ability to manage both exploration and exploitation allows organizations to sustain current performance while also adapting to new market realities.

Leadership Styles and Organizational Change

Research in organizational change also highlights the influence of different leadership styles on the transformation process. Transformational leadership, characterized by inspiration, motivation, and a focus on vision, is often cited as particularly effective in driving organizational change (Bass, 1985). Transformational leaders are able to engage employees in the change process, empowering them to take ownership of new initiatives. In legacy organizations, transformational leadership can help overcome resistance by aligning the interests of employees with the organization’s long-term goals.

Conversely, transactional leadership, which focuses on structured, task-oriented goals, may be more effective in maintaining stability and performance during periods of incremental change. However, during more radical transformations, transformational leadership is often more successful in overcoming the challenges posed by organizational inertia and resistance (Bass, 1985).

Conclusion

In conclusion, the literature emphasizes the complex nature of organizational transformation in legacy organizations. While these organizations face significant challenges in adapting to new strategies, technologies, and cultures, strategic leadership plays a critical role in facilitating the change process. Effective leaders must balance the need for innovation with the preservation of core organizational values and engage employees at all levels to ensure that transformation efforts are successful. Theoretical frameworks such as Kotter's 8-Step Model and Tushman and O'Reilly's ambidextrous organization provide valuable insights into how legacy organizations can successfully navigate the change process. Ultimately, strategic leadership, supported by a clear vision and robust transformation frameworks, is essential for legacy organizations to remain relevant in an increasingly dynamic and competitive environment.

Key Objective

The key objective of this study is to examine the role of strategic leadership in driving organizational transformation within legacy organizations, focusing on how leadership can effectively navigate challenges, overcome resistance, and align organizational culture, processes, and strategies to ensure successful and sustainable change.

Research Methodology

The research methodology for this study is primarily qualitative, aimed at exploring the role of strategic leadership in driving organizational transformation in legacy organizations. Given the complexity of organizational change and the need for in-depth understanding, a case study approach will be adopted. This method allows for a detailed examination of specific legacy organizations that have undergone significant transformation, providing insights into the strategies and leadership practices that facilitated or hindered these changes. Data will be collected through semi-structured interviews with key stakeholders, including senior leaders, managers, and employees involved in the transformation process. These interviews will focus on understanding leadership strategies, decision-making processes, and the challenges encountered during transformation.

In addition to interviews, a comprehensive review of organizational documents, such as transformation plans, strategic reports, and internal communications, will be conducted to supplement the primary data. This mixed approach ensures a rich data set, capturing both the subjective experiences of participants and objective organizational data. Data analysis will involve thematic coding to identify recurring patterns and themes related to strategic leadership and organizational change. The study will also employ cross-case analysis to draw comparisons and identify common factors influencing successful transformation across different legacy organizations. This methodology provides a comprehensive framework for understanding the intricacies of leadership in organizational transformation.

Discussion:

In analyzing the role of strategic leadership in driving organizational transformation within legacy organizations, it becomes evident that effective leadership is a critical factor in overcoming the unique challenges these organizations face. Legacy organizations, characterized by long-standing structures, cultures, and processes, often struggle with resistance to change, inertia, and an inability to adapt to modern demands. Strategic leadership plays an essential role in addressing these barriers, ensuring that the organization remains relevant and competitive in an increasingly dynamic business environment. One of the fundamental tasks of strategic leaders in such organizations is to establish a clear and compelling vision for the future. This vision acts as a guiding light for the transformation process, providing direction and purpose to all levels of the organization. Leaders must communicate this vision effectively to stakeholders, ensuring alignment across the organization and fostering a shared sense of commitment to the transformation goals (Kotter, 1996).

However, the process of driving change within legacy organizations is not without its complexities. Legacy organizations often have deeply embedded cultures and systems that have historically been successful, making the transition to new ways of working difficult. Organizational inertia is one of the most significant challenges, as employees may be resistant to abandoning familiar practices in favor of untested or unfamiliar approaches (Hannan & Freeman, 1984). In such situations, strategic leaders must address these emotional and psychological barriers to change. Kotter's (1996) model of leading change emphasizes the importance of creating a sense of urgency—by highlighting the risks of maintaining the status quo and the benefits of embracing transformation—leaders can break through the resistance. This sense of urgency is crucial for motivating employees to step out of their comfort zones and commit to the change process.

In addition to creating urgency, strategic leaders must foster a culture of trust and collaboration. This involves not only providing support and resources to employees but also actively engaging them in the change process. A transformational leadership style, which emphasizes inspiration, motivation, and empowerment, has proven to be particularly effective in legacy organizations undergoing transformation (Bass, 1985). Transformational leaders are able to inspire employees to go beyond self-interest and embrace a collective vision for the future. They also encourage innovation and creativity, allowing employees to experiment with new approaches and solutions that align with the organization's transformation goals. Furthermore, transformational leaders are skilled at building trust by being transparent and authentic, ensuring that employees feel supported and valued throughout the transition (Bass, 1985).

A key aspect of strategic leadership in legacy organizations is balancing the need for innovation with the preservation of core organizational values. Legacy organizations often have well-established practices, values, and systems that have been critical to their success. While transformation is necessary for staying competitive, leaders must ensure that the organization's foundational values and strengths are not lost in the process. Tushman and O'Reilly's (1996) concept of ambidextrous organizations offers valuable insight into this challenge. Ambidextrous organizations are able to exploit existing capabilities while simultaneously exploring new opportunities. In the context of legacy organizations, this means that leaders must maintain operational stability and efficiency while fostering innovation and change. By doing so, leaders can ensure that the organization does not lose its competitive edge while navigating the complexities of transformation.

Moreover, strategic leadership in legacy organizations requires a deep understanding of the external environment. Change is often driven by external pressures, including technological advancements, shifting market dynamics, regulatory changes, and evolving customer expectations. For legacy organizations to thrive, leaders must be attuned to these external forces and adapt the organization's strategy accordingly. This requires a forward-thinking approach that combines both incremental improvements to current practices and more radical, transformational changes (Tushman & O'Reilly, 1996). Strategic leaders must, therefore, not only focus on internal organizational issues but also stay informed about broader industry trends, ensuring that the organization is prepared to meet new challenges and seize emerging opportunities.

One of the most significant aspects of strategic leadership in organizational transformation is the ability to align resources and capabilities with the new direction. Transformation often requires significant investments in new technologies, processes, and talent, and leaders must ensure that the organization's resources are strategically allocated to support the change initiatives. This may involve restructuring teams, investing in new training programs, or adopting new technologies that enable more efficient operations. The strategic leader's role is to prioritize these investments in a way that maximizes the organization's chances of success. Furthermore, leaders must be able to monitor progress and adjust their strategies as needed, ensuring that the transformation process remains on track.

Finally, the ability to lead through uncertainty and maintain morale during times of change is crucial. Organizational transformations often involve risks and challenges, and strategic leaders must be prepared to navigate these uncertainties while keeping the organization focused on its goals. This requires resilience, adaptability, and a willingness to make tough decisions when necessary. Leaders must also provide a sense of stability, ensuring that employees feel supported throughout the transformation. This emotional support is critical in maintaining employee engagement and ensuring that the transformation process is not derailed by fear or uncertainty.

In conclusion, strategic leadership plays a central role in guiding legacy organizations through the complex process of organizational transformation. Leaders must balance the need for innovation with the preservation of core values, foster a culture of trust and collaboration, and align organizational resources with the new direction. By creating a clear vision, building urgency, and empowering employees, strategic leaders can overcome the challenges of inertia and resistance, ensuring the organization's long-term sustainability and success. As organizations continue to face an ever-changing external environment, strategic leadership will remain a critical factor in driving meaningful and successful transformation.

Conclusion

In conclusion, strategic leadership is essential for driving successful organizational transformation within legacy organizations. These organizations face significant challenges, such as deep-rooted cultures, resistance to change, and operational inertia, which can hinder adaptation to new technologies, strategies, and market demands. Effective leaders are crucial in creating a compelling vision, fostering a sense of urgency, and aligning organizational resources to support transformation. By adopting a transformational leadership style, leaders can inspire and motivate employees, overcome resistance, and empower individuals at all levels of the organization to engage in the change process. Furthermore, strategic leaders must balance the need for innovation with the preservation of core organizational values, ensuring that the organization remains competitive while maintaining its foundational strengths. The successful transformation of legacy organizations requires leaders to be forward-thinking, adaptable, and capable of navigating both internal and external challenges. Ultimately, strategic leadership not only facilitates the transformation process but also ensures that organizations can sustain long-term growth and competitiveness in a rapidly evolving business environment. Through clear vision, strategic decision-making, and effective communication, leaders can guide legacy organizations through transformation, fostering a culture of resilience, innovation, and continuous improvement.

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A STUDY ON EFFECTIVENESS IN LABOUR HEALTH SAFETY ENVIRONMENT (HSE) MEASUERS AT RAMCO CEMENTS LIMITED, VIRUDHUNAGAR.

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Abstract

This study is focused on the Health, safety, and environment (HSE) is the set that studies and implements the practical aspects of protecting the environment and maintaining health and safety at occupation. In simple terms it is what organizations must do to make sure that their activities do not cause harm to anyone.

INTRODUCTION:

Definition:

Any arrangement of working conditions which contribute to the worker's health and safety, comfort, efficiency, economic security, education. **Prof. Richardson**

Meaning:Health, safety, environment (HSE) refers to all the facilities for labourers to improve their working conditions, provide safety and security and raise their standard of living.

Importance:

- They lead to better physical and mental health of workers and thus promote a healthy work environment.
- Housing schemes, medical benefits, education facilities and recreation facilities for workers and for their families help in raising their standards of living. Workers pay more attention towards work and this increase their productivity.
- By providing welfare facilities employers get a more stable labour force as workers take active interest in their jobs and work with a feeling of involvement and participation.

Purpose:

The purpose of HSE & welfare measures:

- To increase efficiency and productivity among workers
- To prevent accidents and injuries
- To improve moral and loyalty
- To build up stable labour force and lower absenteeism
- To earn goodwill and enhance public image

Function:

- To ensure HSE facilities and various labour legislation to all section of workers in organized/unorganized sectors through enforcement of various labour laws.
- To ensure good environment relationship between employers and employees by reducing the level of conflict through speedy resolution of dispute and grievance

Other abbreviations than HSE are also used:

Acronym	Name	Group
OHS	Occupational health and safety	Occupational health and safety
WHS	Work health and safety	Work health and safety
HSE	Health, safety and environment	Health, safety and environment
EHS	Environment, health and safety	
SHE	Safety, health and environment	
QHSE	Quality, health, safety, and environment	Quality, health, safety, and environment
HSEQ	Health, safety, environment and quality	
HSSE	Health, safety, security and environment	Health, safety, security and environment
QHSSE	Quality, health, safety, security, and environment	Quality, health, safety, security, and environment
HSSEQ	Health, safety, security, environment, and quality	

NEED FOR STUDY:

This study gives ideas about how far employees are get satisfied with prevailing HSE measures. To find out health related problems among the employee's and how far the health facilities are helpful and, also to create the awareness regarding safety equipment among the workers. Management must also ensure that facilities provided by Ramco cements limited should reach the employees. Through this analysis we should avoid probable accidents and injuries in this industry through the personal protective equipment.

STATEMENT OF THE PROBLEM:

- ❖ If there is no employee HSE & welfare measure in the workplace then there was unsecure and discomfort and risky working situation and we get lots of problems and issues for all the employees.
- ❖ If we provide best HSE measure to our employees then the work environment become a secure and comfort place to our employees. Then only employees can work with fulfilment. The welfare measures of the employees are essential because of the nature of the industrial system. Today workers are an essential contributing to the growth of the industry. If the employees are satisfied with the facilities offered by the industry, gradually the output will increase. This study analyses the various dimensions of labour welfare and HSE measures that are perceived by the employees that highlights the perception of the employees regarding the various HSE measures provided to them.
- ❖ So that only I chosen this topic, a study on effectiveness in labour HSE measure at Ramco cements limited. Finally we can analyse the positive and negative consequences of this measure and then we can give good opinion and suggestion to avoid from physical hazards, electrocution, welfare hazards, health hazards, safety hazards.

OBJECTIVES OF STUDY:

- ➢ To study about the employee's health, safety, environment measure in Ramco cements limited.
- ➢ To ascertain the level of awareness of welfare measures among the employees.
- ➢ To identify whether the employees are satisfied with the safety facilities provided by their Ramco cements limited.
- ➢ To analyse the health facilities provided to employees.

LITERATURE REVIEW

(Kumar, Amit2016) – "A study of industrial health and safety climate in automobile sector" objective of this research project was to examine the employees' satisfaction regarding industrial health and safety measures of the organization. To examine the hea lth and safety provisions followed by the organizations in case of emergencies. The present study is an attempt to know the relationship between Health and safety and employees' satisfaction in the automobile sector in Haryana.

(Naik Yagneshkumar Sureshchandra 2017) – A study of Multidisciplinary Approach towards Occupational Safety and Health with Special Emphasis to Behavior Based Safety in Large Scale Steel Manufacturing Unit. The objective of research is to conduct behavioral safety training & implement BBS in steel industries, to train workforce to create BBS leaders for proper implementation of BBS at site.

(Singh, Ajay Kumar 2013) - Study of Safety System for Unsafe Acts Conditions at Construction Workplace. The objective of study is to study the workplace safety system and, to ascertain the challenges that the present status of the safety. The unsafe acts and unsafe conditions in construction industry is comparatively high as most of the organized factory.

(Manavalani2013) - Study on The Occupational Health and Safety Awareness Among the Unorganized Sector Workers. Objective-To measure the level of OH&S awareness among the unorganized workers of various sectors and to devise the measures to improve the prevailing OH&S conditions. . Sample size a sample of 100 workers in each sector was inquired. There was a mixed response from both genders of workers in each industry.

(Rani, Anita 2014) - In the article "A study of health and safety standards in small and medium enterprises in Haryana" objective -To study the implementation of health and safety standards in small and medium enterprises in Haryana. It has been found in the study that most of the respondents were agreed to the implementation status of Health and Safety standards in small scale and medium enterprises in Haryana.

HYPOTHESIS TESTING:

One-Way Anova:

Null Hypothesis (H0): There is no association between work experience in Ramco and relation between supervisor and workers.

Alternative Hypothesis (H1): There is an association between work experience in Ramco and relation between supervisor and workers.

ANOVA (one way) independent variable is of nominal scale with more than two categories and the dependent variable is metric or at least on interval scale in the present study, one way ANOVA was conducted to differ for the factor to test the following hypothesis.

Table 2.1
ANOVA
Work experience in Ramco

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups (Combined)	6.043	2	3.022	1.521	.224
Linear Term Unweighted	5.308	1	5.308	2.672	.105
Linear Term Weighted	3.561	1	3.561	1.792	.184
Deviation	2.482	1	2.482	1.249	.266
Within Groups	192.707	97	1.987		
Total	198.750	99			

Interpretation:

Using Anova from above table the, p value is .266, since the p value is more than 0.05 in case of work experience in Ramco. So the null hypothesis is accepted and the alternative hypothesis is rejected. From the analysis it concluded that, There is no association between work experience in Ramco and relationship between supervisor and workers.

Table 2.2
Mean score analysis was made based on the respondents for satisfaction level of welfare measure

(**HS**-highly satisfied, S-satisfied, **N**-neutral, **DS**-dissatisfied, **HDS**-highly dissatisfied)

S.NO	FACTORS	HS	S	N	DS	HDS
1..	First aid appliances	82	18	0	0	0
2.	Ambulance facilities	66	34	0	0	0
3.	Washing facilities	53	38	9	0	0
4.	Lunch room facilities	53	38	9	0	0
5.	Facilities for sitting	53	35	12	0	0
6.	Shelter facilities	60	30	10	0	0
7.	Canteen facilities	54	38	8	0	0
8.	Recreation facilities	56	28	16	0	0
9.	Medical and dispensary facilities	82	18	0	0	0
10.	Transport facilities	58	29	13	0	0

Table 2.3

S.NO	CALCULATION	TOTAL	MEAN SCORE
1.	(82*5) + (18*4) + (0*3) + (0*2) + (0*1)	482	0.482
2.	(66*5) + (34*4) + (0*3) + (0*2) + (0*1)	466	0.466
3.	(53*5) + (38*4) + (9*3) + (0*2) + (0*1)	444	0.444
4.	(53*5) + (38*4) + (9*3) + (0*2) + (0*1)	444	0.444
5.	(53*5) + (35*4) + (12*3) + (0*2) + (0*1)	441	0.441
6.	(60*5) + (30*4) + (10*3) + (0*2) + (0*1)	450	0.45
7.	(54*5) + (38*4) + (8*3) + (0*2) + (0*1)	446	0.446
8.	(56*5) + (28*4) + (16*3) + (0*2) + (0*1)	440	0.44
9.	(82*5) + (28*4) + (16*3) + (0*2) + (0*1)	482	0.482
10.	(58*5) + (29*4) + (13*3) + (0*2) + (0*1)	445	0.445
			4.54

MEAN SCORE = 4540/ (10*100) = 4.54

Interpretation:

From the above analysis, it is clear that the variable First aid appliances is 0.482 and medical & dispensary facilities is 0.482. These two variables carries the highest mean.

SUGGESTION:

- Latrines and urinals should be improved in cleanliness for the employees.
- For the employees children's education allowance should be improved, for lower cater level employees full school fees should be given for the needy students.
- And want to increase the spittoons for the employees, and it should be maintained neat and clean.
- Worker should not get irritate to use of PPE. so, well equipped and newly designed personal protective equipment should be given to them so it will make a desire towards PPE's and they will become a regular user of PPE's.

CONCLUSION:

Health and safety training at the workplace is a fundamental aspect of organizational success. A healthy and safe working environment promotes staff morale, increases efficiency and productivity, mitigates staff turnover, and prevents the cost implications of workplace injuries and illnesses Health, Safety, and Environment (HSE) are integral aspects of creating a safe and sustainable workplace environment. By implementing effective management systems, organizations can protect the well-being of their employees, minimize risks, and ensure compliance with regulations. Prioritizing HSE yields multiple benefits, including improved employee well- being, reduced incidents, regulatory compliance, enhanced reputation.

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A STUDY ON IMPACT OF DIGITAL MARKETING ON BUYING BEHAVIOUR OF CONSUMERS IN MADURAI CITY

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Abstract

With the advancement in technology the use of digital marketing is growing and spreading fastly. To promote a sale of goods and services marketers largely use digital marketing. Buyers most likely prefer social media and websites to view trendy products and services. As, India is one among the largest mobile users in the world, digital marketers have emerged like mushrooms. The purpose of the research is to study the impact of digital marketing on the consumer's buying behaviour.

Keywords: Digital marketing, Promotion, Buying behaviour, Customer satisfaction

1.Introduction

Digital marketing is spreading and growing rapidly with the increase of smart phone penetration, large internet user base, improvement in the standard of living of people and digitally- savvy population. It is largely driven by the prevalence of on line purchase by the consumers. Today, social media such as you tube, face book, instagram, and others namely search engine optimization (SEO), artificial intelligence based media facilitate easy marketing of product and services and emerged as the most cost effective modes of promotional components. Further, covid - 19 forces people to use on-line mode for purchase and this made them addicted to digital means.

In today's context, consumers aware about the digital marketing sources and able to evaluate the best suitable source for their purchase based on the website design, relevant content, fast loading times, trust worthy, brand image, personalised experiences, social media engagement, and other consumers' responses. Digital marketing allows any person to do markets easily and made it a best mode of purchase by the consumers. Moreover, it has made a great transformation of the way marketing and purchase done previously.

2. Review of Literature

1. Komal Nagrani and Sai Pavan Kumar (2021) had studied the impact of digital marketing on consumer behaviour. Discriptive statistical tools were used to study the impact . It has been witnessed that the government support, FDI investment, rapid internet penetration, and young age population all these factors favouring e-commerce have wider scope in the coming years
2. Godes & Silva(2012) The Study revealed that 90% of consumer read online reviews of other consumer before make purchase decision. Consumer read at least four reviews before make their final decision of purchase. Reviews play important role in purchase decision.
3. Fisch (2010) In world, there are approximately 1 billion monthly active users of facebook. After two years of facebook introduction, there were 50 million users. Everyday 31 billion queries on google. 1000 internet devices used in 1984 and 1,00,00,00,000 internet devices used in 2008. Basheer et al.(March,2010) The Study is on the impact of mobile advertising on

consumer purchase decision. Findings revealed that there is a positive relationship between perceived usefulness of advertisement and consumer purchase decision. Kucuk and

4. Krishnamurthy(2007) The study revealed that internet and virtual communities helps the consumers, societies and marketer to access and share information with others. It too helps in enhancing the communication skills also.

5. Teo(2005)The survey was conducted by firms in Singapore and findings revealed that digital marketing is effective marketing tool for gaining results. www.forum4researchers.com 1 International Journal of Innovative Research and Practices

3. Objectives of the Study

To Study the impact of Digital Marketing on Consumer buying behavior. 2. To study the awareness of Digital Marketing.

4. Hypotheses of the Study

Ho1: There is no significant relationship between monthly income and product preference to buy through Digital Channel. Ho2: There is no significant relationship between Customer Satisfaction and product purchase through Digital Marketing.

5.Research Methodology

To Study the impact of Digital Marketing on various parameters, A Structured questionnaire for collecting primary data. Primary data was collected from 150 online shopper respondents. Respondents are selected from Madurai city, Tamilnadu. Primary data in structured format was collected via direct questioning to respondents, which is direct through survey method. Convenient sampling technique is isused to study the 150 respondents. The data were analyzed and hypotheses were tested with the Statistical tool like chisquare test.

6. Result and Interpretation

After collecting the data from respondents with the help of structured questionnaire, the results are interpreted.

6.1 Opinion of Online Buyers

Several questions were asked to the respondents on their Age, Monthly Income, Occupation, etc. for understanding their profile and responses. The table below is interpreted on the basis of the responses. The Table below is interpreted on the basis of the responses.

Table -1

Opinion of Online Buyers

Variables	Category	No. of Respondents	Percentage of Respondents
Gender	Male	112	75
	Female	38	25
	Total	150	100
Age	Below 18 years	25	17
	18-30 years	58	39
	31-45 years	54	36
	Above 45 years	13	9
	Total	150	100
Profession	Employee	61	41
	Business	53	35
	Student	17	11
	House wife	11	7
	Any other	8	5
	Total	150	100
	Below 10,000	68	45
	10,000-25,000	32	21

Monthly Income	25,000-50,000	15	10
	Above 50,000	35	23
	Total	150	100
Frequency of Online Purchase	Once Annually	23	15
	2-5 Purchases Annually	59	39
	6-10 Purchases Annually	47	31
	Above 10 Annually	21	14
	Total	150	100
Reasons for online shopping	Easy Buying Options	53	25
	Wide variety of products	37	
	Various methods of payments	14	9
	Lower prices	39	26
	Others	7	5
	Total	150	100
Influence of digital channels to buy more	Social media	84	56
	Websites	31	21
	Emails	7	5
	Advertising	23	15
	Others	5	3
	Total	150	100
What kind of product you prefer to buy through digital channel	Convenience goods	31	21
	Shopping goods	93	62
	Speciality goods	26	17
	Total	150	100
Customer satisfaction in purchase through digital channel	Strongly agree	36	24
	Agree	87	58
	Neutral	13	9
	Disagree	7	5
	Strongly disagree	7	5
	Total	150	100
From which digital channel you bought products	Social media	31	21
	Websites	85	57
	Email	8	5
	Advertising	19	13
	Others	7	5
	Total	150	100

2 Chi Square Test: Relationship between monthly income and product preference to buy through Digital Channel.To Study the Relationship between monthly income and product preference to buy through Digital Channel, the clubbed table is as follow. Table 2: Relationship between monthly income and product preference to buy through digital channel.

Table 2
Relationship between monthly income and product preference to buy through digital channel.

Income	**Convenience**	**Shopping goods**	**Speciality**	**Total**

	goods		goods	
Below 10,000	13	50	5	68
10,000-25,000	8	18	6	32
25,000-50,000	5	7	3	15
Above 50,000	3	20	12	35
Total	31	93	26	150

Ho1: There is no significant relationship between monthly income and product preference to buy through digital channel.

According to the calculation, calculated chi-square statistic is 18.9212 The p-value is 12.59. The result is significant at $p < .05$, with 0.05 level of Significance.

Hence the null hypothesis is rejected and there is a significant relationship between monthly income and product preference to buy through digital channel.

6.3 Chi Square Test: Relationship between Customer Satisfaction and product purchase through Digital Marketing

To study the relationship between Customer Satisfaction and product buy through Digital Marketing, the clubbed table is as follow.

Table 3

Relationship Between Customer Satisfaction and Product Purchase Through Digital Marketing

Media	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Social media	10	18	1	1	1	31
CompanyWebsites	17	56	6	3	3	85
Email	3	3	1	1	0	8
Advertising	6	8	3	1	1	19
Others	1	3	2	0	1	7
Total	36	87	13	7	7	150

Ho2: There is no significant relationship between Customer Satisfaction and product purchase through Digital Marketing. According to the calculation, calculated chi-square statistic is 26.296 . The pvalue is 15.7799. The result is significant at $p < .05$, with 0.05 level of Significance. According to above analysis, Null hypothesis is rejected. In other words, there is significant relation between customer satisfaction and buying the products through Digital channel. 7.

7.Conclusion

It is concluded that digital purchase is evaluated as the most prefered mode of purchase with the feature of easy purchase, wide variety of products, low price and various options of payment. The study also has found that purchase through company websites like Amazon, Zomato, and social media mode are highly prefered modes of purchase.

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ISSUES OF UNORGANIZED WOMEN LABOURERS WITH REFERENCE TO CONSTRUCTION INDUSTRY IN ARUPPUKOTTAI TALUK

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Abstract

After agriculture, construction is the second largest industry in India. Construction industry is the backbone of a country as it creates the infrastructure necessary for economic and industrial growth. In India, it employs large number of skilled, semiskilled as well as unskilled workforce due to its huge demand. The workforce employed in the construction industry has to face several hardships at the work since it is one of the hazardous occupations. Due to the lack of alternatives the women from lower socio-economic backgrounds having a low level of education and illiteracy, are forced to work in the unorganized sector. Nowadays, women's participation in the unorganized sector in increasing domestic work, agriculture work, street vending and construction work etc. Even though the women workers work for more hours, they are paid very less. It affects their personal and social life. Data was collected from to construction workers with special reference to Aruppukottai Taluk, Virudhunagar district in Tamil Nadu.

Key Words: Unorganized Sector, Problems of Women Labours, Construction Industry, Low Wages, Working hours, Social life, employment.

I. INTRODUCTION

A construction sector refers to a part of the construction industry. This industry involves building, repairing and maintaining infrastructure and real estate projects. This includes residential, commercial or industrial construction along with civil engineering projects such as bridges, roads and dams. The industry encompasses a wide range of activities, including design, planning, management, financing, contracting and maintaining construction projects. The construction industry directly impacts employment and economic growth, as it helps create jobs and generate revenue for many other industries.

While the industry holds vital importance for employment and economic growth, it is also very vulnerable to fluctuations as the demand for construction has a close relationship with macroeconomic conditions. Recently, technological advancements and an increasing focus on sustainability have also had a significant impact on the industry, leading to the development of new construction practices and materials. The construction industry remains vital for the growth and progress of modern societies.

Unorganized sector

The unorganized sector, also known as the informal sector, refers to economic activities that are not registered or regulated by the government. This sector operates outside the formal economy and is characterized by a lack of formalization, regulation, and social protection.

Unorganized sector covers 92% of the total work force in India. About 50% of the construction industrial workers belonged to unorganized sector. Consisting of all unincorporated private enterprises owned by individuals or households engaged in the sale or production of goods and services operated on a proprietary or partnership basis and with less than ten total workers.

Amongst the characteristic features of this sector are ease of entry, smaller scale of operation, local ownership, uncertain legal status, labour - intensive and operating using lower technology based methods, flexible pricing, less sophisticated packing, absence of a brand name, unavailability of goods storage facilities and an effective distribution networks, inadequate ;access to government schemes, finance and government aid , lower entry barriers for employees, a higher proportion of migrants with a lower rate of compensation. Employees of enterprises belonging to the unorganized sector have lower job security and poorer chances of growth, and no leave or paid holidays, they have lower protection against employers indulging in unfair or legal practices.

Overview of Construction Sector in India

The construction industry in India is one of the largest and fastest -growing sectors, contributing significantly to the country's GDP.

Key Segments

1. **Residential Construction:** Includes apartments, houses, and villas.
2. **Commercial Construction:** Includes offices, retail spaces, and hotels.
3. **Infrastructure Construction:** Includes roads, highways, bridges, airports, and ports.
4. **Industrial Construction:** Includes factories, warehouses, and manufacturing facilities.

Growth Drivers

1. **Urbanization:** Increasing demand for housing and infrastructure in urban areas.
2. **Government Initiatives:** Investments in infrastructure development, such as Smart Cities Mission and Bharatmala pariyojana.
3. **Economic Growth:** Growing economy and increasing disposable incomes driving demand for residential and commercial spaces.

Challenges

1. **Regulatory Framework:** Complex and time-consuming regulatory processes.
2. **Labor Shortages:** Shortage of skilled labor, leading to increased costs and project delays.
3. **Infrastructure Deficiencies:** Inadequate infrastructure, such as transportation and logistics, hindering construction activities.

Opportunities

1. **Affordable Housing:** Growing demand for affordable housing, driven by government initiatives and increasing urbanization.
2. **Sustainable Construction:** Increasing focus on sustainable and green construction practices, driven by government regulations and consumer demand.
3. **Infrastructure Development:** Government investments in infrastructure development, such as roads, highways, and airports.

Key Players

1. **Larsen and Toubro (L&T):** One of India's largest construction companies, with a diverse portfolio of projects.

2. **DLF Limited:** A leading real estate developer, with a focus on residential and commercial projects.
3. **Hindustan Construction Company (HCC):** A major construction company, with expertise in infrastructure and industrial projects.

Women workers

Women's work is a field of labour assumed to be solely the realm of women and associated with specific stereotypical jobs considered as uniquely feminine or domestic duties throughout history. It is most commonly used in reference to the unpaid labor typically performed by that of a mother or wife to upkeep the home and children. Women's work is generally unpaid or paid less than "men's work" and is not as highly valued as "men's work". Much of women's work is not included in official statistics on labour, making much of the work that women typically do virtually invisible.

In recently released economic survey for FY 2023-24, women's participation in India's labour force has surged dramatically, reflected a significant leap in gender equality and empowerment. The female labour force participation rate (LFPR) soared to 37% in 2022-23, up from a mere 23.3% in 2017-18 – an impressive shift largely driven by rural women, who dominate in agriculture-related roles.

Issues of Women Construction Workers

1. Construction wage discrimination is one of the most major problems for women construction workers. They have been considered as the weaker sex and so the wage rate is less than men.

2. Women are engaged in a lesser number of activities and most of them are engaged in unskilled works. Given an increasing number of women construction workers in the market, they face employment scarcity. The livelihood insecurity is even Andhra University, Visakhapatnam 87 more in the case of aged women. The contractor (or) broker usually prefers younger construction women workers not only for their physical fitness but also has a motive for sexual harassment.

3. Women construction workers face sexual abuse from contractors, brokers, and co-workers. The take chance of the helpless situation of the women in getting a daily construction work or threatening wage deduction. Women thus have not only livelihood insecurity but also sexual harassment. Due to this insecurity women construction workers prefer to work in groups which in turn magnifies the problem of work scarcity. Other than sexual abuse, women construction workers also have to bear with misbehavior and other abuses from the contractors.

4. The women have to do additional activities other than the work described in the case of household workers. But for the additional works she performs, she does not enjoy any construction wage benefits. On the other hand, it becomes a burden for her as she is investing time and energy.

II. Review of literature:

A literature review is a survey of scholarly sources on a specific topic. It provides an overview of current knowledge, allowing you to identify relevant theories, methods, and gaps in the existing research.

Kalpana devi and Kiran (2013), Construction industry provides job opportunity to large number of skilled as well as unskilled workforce. The workforces employed in the industry have to face several difficulties at the work place. Several issues related to health, job stress, and injuries at work place are the major concern of the research among researchers. The present study is review of past research work related to the women work force employed in construction industry in India. The major focus of the study is to identify the key factors related to the status of female worker in the industry. Women work as unskilled labour and face several other difficulties in comparison to males. Sexual harassment, gender biasness, wage discrimination are the major factor due to which the working environment becomes difficult for them in the industry and women are remains at same level of skill even after working few numbers of years.

Azadeh Barati et al, India is a traditional country and there is diversity in religions, culture and customs. Role of the women in India mostly is household and limited to domestic issues. In some cases, women can find employment as nurses, doctors, teachers the caring and nurturing sectors. But even if well qualified women engineers or managers or geologists are available, preference will be given to a male of equal qualification. The present study investigated to identify the factors preventing women employees from aspiring for higher post and challenges & problems faced by women workers. Further the study try to explain the real condition of Indian working women and also make an effort to clear main problems of working women.

Devi et al (2015) The authors tried to judge the working conditions of the people working in various organizations. Under present globalized working environment, it is important to make the employees The present study is a critical examination of the selected cases exist in the literature on the musculoskeletal disorders among the workers performing similar types of works in different industry, and answer the question level of musculoskeletal disorders among the workers engaged in these industries are same or not.

III. RESEARCH METHODOLOGY

A. Aim of the study

The aim of the study is to assess the level of issues faced by the women construction labours with special reference to Aruppukottai Taluk, Virudhunagar District in Tamil Nadu.

B. Objectives

To recognize the problems faced women construction workers in the study area.

To analyze the socio-economic status of women construction workers in the study area.

C. Methodology

The researcher used the descriptive design for this study. The researcher is interested in studying about women construction Labours. The research purpose is to describe the issues faced by the women construction workers. The Universe for this research was taken from the Aruppukottai Taluk, Virudhunagar District in Tamil Nadu. In this study the researcher adopted the purposive sampling method. The Universe is 60. The total Universe was taken for the research data collection as respondents. The researcher has collected data by well-structured interview schedule.

Table 1: Problems faced Women Construction Workers

Problems	Frequency	Percentage
Health Issues		
Urinary infection	10	16.67%
Respiration	6	10%
Skin disease	4	6.67%
Illiteracy	15	25%
Low wages	11	18.33%
Old age	5	8.33%
Exploitation	9	15%
Total	60	100

Source: Primary Data

Among 20 Construction workers, 16.67% have urinary infection, 10% have respiration problems and 6.67% have a skin disease. 25% of women workers are illiterate. Maximum number of women construction workers 18.33% get low wages as compared to unskilled men workers. About their low wages, literacy level and exploitation incidents which can be attributed to their poor mental and physical health and family problems altogether.

Table 2: Socio-economic status of women construction workers (N-60)

S. No	Socio – Economic Conditions		
	VARIABLES	No. of Respondents (N=60)	Percentage -100%
1.	Age		
	18-23	20	33.33
	24-29	22	36.66
	30-35	10	16.66
	36-41	5	8.33
	Above 42	3	5
2.	Religion		
	Hindu	30	50
	Muslim	12	20

	Christians	15	30
3.	Marital Status		
	Unmarried	3	5
	Married	50	83.33
	Widowed	7	11.66
4.	Educational Qualification		
	Illiterate	35	58.33
	Primary	20	33.33
	Secondary	5	8.33
5.	Income (monthly)		
	1000-2000	18	30
	2001-4000	17	28.33
	Above 4000	25	41.66
6.	Type of family		
	Nuclear family	45	75
	Joint family	15	25

Source: Primary Data

In the current study the concentration of the women workers was in the age group of 24-29 years. Majority of respondent the Hindu women workers (50%) (Muslim 20%) (Christians 30%). In the study 83.33% percent of women workers were married. 5% of at unmarried and then 11.66% widow. When the educational status of the respondents is analyzed, it is noted that out of 60 respondents. It is 33.33%respondents are educated primary level and the remaining 8.33% of respondents are categorized into secondary level and Majority of the 58.33% of respondent are illiterate. It is noted that 60 respondents having family income of Rs.1,000 to 2,000/- (30%), Rs.2,001 to 4,000/- (28.33%), above Rs.4,000/- (41.66%). With regard to the two types of the family, most of the respondents are living in nuclear family (75%) and (25%) are joint families in nature.

Conclusion

The Indian Constitution guarantees equality of opportunity related to work, equal rights for livelihood, equal pay for equal work etc., but these are not effectively implemented. The unorganized sector is fast expanding while the organized sector is shrinking. Women in the construction sector is not easy, within the industry they have to face several adverse situations such as sexual harassment, wage discriminations, injuries and deceases are the major factors. Although perceived as a male-dominated industry, a recent ministry of labour and employment data shows that 49% of construction workers are women. The construction industry in India is expected to continue growth, driven by government initiatives, urbanization, and economic growth. However, the industry will need to address challenges such as regulatory frameworks, labor shortages, and infrastructure deficiencies to achieve its full potential.

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A STUDY ON THE IMPACT OF DIGITALISATION OF INDIRECT TAXATION IN INDIA

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Abstract

The digitalization of indirect taxation in India has significantly transformed the country's tax system, improving efficiency, compliance, and transparency. The introduction of the Goods and Services Tax (GST) and online tax filing platforms has streamlined tax administration and reduced tax evasion. This study examines the impact of digitalization on businesses, taxpayers, and government revenue, identifying challenges and opportunities in the transition to a digital tax regime.

Keywords: Digitalization, Indirect Taxation, GST, Compliance, Transparency, Revenue Collection

INTRODUCTION

Manufacturers and Retailers and collect indirect taxes on behalf of municipalities and governments. Each country and state creates their own specific regulations that often change as product offerings evolve and in response to the dynamic economic landscape. Indirect taxes can apply to physical and digital goods, as well as services.

Direct tax and indirect tax are two separate types of taxes. With direct tax, like income tax, Wealth tax , individuals and organizations pay the government directly based on their earnings or revenue. Indirect taxes are levied on the sales of goods and services and paid for by the customer through the business. The business then pays (remits) the tax collected to the appropriate tax authority.

Across the globe, tax authorities are redesigning methods for assessing and collecting value-added tax (VAT), replacing periodic mostly paper-based compliance reports with e-reporting and e-invoicing. Indirect tax compliance is undergoing the most dramatic changes since the very idea of a VAT first took hold in the 1960s. We are witnessing the development of what the Organization for Economic Co-operation and Development (OECD) describes as data-driven or digital tax administration. The vision is for a digital transformation in which taxation becomes “more of a seamless and frictionless process over time,” according to an OECD paper. As it happened when digital change swept through other businesses or corporate functions, the transformation of tax is creating a more networked and data-focused environment.

DIGITALIZATION OF INDIRECT TAXATION

In a data-driven environment, the tax authority can simply compare various data sources, which they now access in real time, reading actual numbers out of the taxpayer's ERP system, for example. When they see gaps or anomalies, they will simply assess additional tax or block refunds—and they will shift the burden of proof onto the taxpayer when there is any disagreement.

To meet such change head on, businesses should adopt a fundamentally different tax compliance strategy—by thinking digitally. Compliance in a digital regime cannot be managed with manual processes. More than that, however, changes in tax compliance should be seen as an opportunity. Lessons learned from the digitalization of other businesses and functions are applicable here. A significant digital effort is needed for tax, with software solutions embedded in the business.

Due to the digital transformation of information uploaded on the government portals, the tax authorities now have increased visibility of data leading to faster detection of default and consequent action taken. The trend that has had a substantial impact on tax authorities' approach to indirect tax administration is the shift from paper-based reporting to real-time digital reporting in its various forms such as E-invoicing. E-invoicing is a revolutionary transformation in the Indian indirect tax landscape. Through e-invoicing, the tax authorities obtain invoice-related information on a real-time basis. For tax administrations, e-invoicing can assist in closing gaps, prevent in voluntary oversights, enhance risk management capabilities, and of course early detection of fraudulent transactions.

STATEMENT OF THE PROBLEM

With increased in the adaption of technology in every possible field of the economy the process of filling forms and returns of the tax under both direct and income tax were ought to be digitalized with the help of booming technology. However the process of conversion into a paperless system was not quite easy as expected as there were many challenges to be faced as a minimum of 25 to 30% of the population of the country weren't much advanced in using the technology as compared to the younger generation and technological resources is not easily by those living in the rural area of the country.

Digitization comes with massive advantages to businesses. Digitizing invoices (e – Invoicing) first of them with digital tools businesses are able to do error-free compliance; significant benefits have also accrued to government and tax consultant.

Instead of fewer large companies that could aim to reach the global market; digitization has opened up shores for many entrepreneurs. To stay ahead, these businesses need accurate data insights so they can aim for smooth tax compliance and meet their business objectives with it. Succinct and deep insights into ITC leakages and consequent working capital loss can help them make informed decisions about where the gaps lie and what actions should be taken to plug them.

Objectives

1. To analyze the role of digitalization in the administration of indirect taxes in India.
2. To assess the impact of GST and digital tax platforms on compliance and tax evasion.
3. To identify the challenges faced by businesses and taxpayers due to digital tax reforms.
4. To suggest measures to enhance the effectiveness of digital taxation..

Sources of Data

The sources of data collected from the present study are both from Primary as well as Secondary sources.

Primary data's are collected from the direct conversation and observation of Auditors, Tax authorities, small scale business man and GST tax filers.

Secondary data's are gathered from the District Industrial Center(DIC) , research article , Standard Text books, magazines and Websites.

3. Literature Review

Several studies highlight the benefits of digital taxation, such as reduced human intervention, enhanced transparency, and improved tax collection efficiency. However, challenges like technological adaptability, cyber security risks, and compliance burdens for small businesses remain. The study explores existing research on India's transition to digital taxation and compares it with global trends.

IMPACT OF DIGITALIZATION OF INDIRECT TAXATION

1. Widening the Tax Base

Data-centric approaches can broaden tax bases without necessarily increasing taxation levels. Measures could include:

1. Requiring online marketplaces to report sales for purposes of collecting VAT and customs duties.
2. Analyzing past tax filings submitted under current stimulus programs as a way of verifying compliance.
3. Assisting with the collection of property taxes by matching up the land registry with taxpayer files.

2. Increase Clarity and Trust

Establishing electronic platforms for tax registration, filing, payment, and dispute resolution helps citizens navigate these processes more smoothly, provides assurances that tax payments reach actual government accounts, and decreases risks of officials misusing their discretion.

Implementation of technologies like the OPAL (Open Algorithm) developed at MIT will give researchers, think tanks, or any citizen the ability to analyze tax data without access to personally identifiable information independently - creating unparalleled transparency.

3. Reducing Compliance Burden

According to our survey of 190 economies, people and businesses are finding it easier than ever before to pay their taxes. A record number of economies now utilize electronic filing systems - double what existed back in 2004! Digital technology is making paying taxes simpler both in terms of time spent paying them as well as individual payments made per year.

4. Enhancing Administrative Efficiency

As governments become adept in their use of IT, they will see noticeable efficiency gains. Countries just starting their digital transition can leverage AI-enabled data capture of paper records for faster digitalization and reliability of the information; others gain value through simplified procedures or matching filed statements against third-party datasets.

Advanced tax administrations will find using advanced analytics to detect underreporting invaluable. With today's financial instability, some administrations may also reconsider their balance between offsite and onsite audits as an additional value driver.

RECOMMENDATION FOR DIGITALIZATION OF INDIRECT TAXATION

The researcher has to observe the auditors conversation and observation she recommend the following points

1. Implementing tax rules without affecting the development of the digital economy.
2. Create a friendly environment for international business.
3. Ensure compliance with formal obligations by the new VAT payers.
4. Facilitate compliance with the obligations of subsidiary withholding agents.
5. Correctly characterize transactions.

SUGGESTIONS

The Study identified the following proposals to improve the tax enforcement technology of the government:

1. Digitalization may provide the government with greater information on individual consumption, such as due to increased use of digital payment methods and the phasing out of cash payments.

2. Digitalization can help to generate information on and improve existing links between wealth (traded and non-traded assets, homeownership, pensions) and capital incomes (interest, dividends, capital gains, property income, pension accrual).
3. International information exchange can be made automatic and can be improved by creating international registers for asset ownership and capital incomes.
4. Digitalization allows financial institutions to act better as third-party reporters on capital incomes and wealth for the government.
5. Digitalization makes it possible for consumers to act as third-party reporters for the VAT or sales tax, for example, by using electronic payment information (such as debit and credit card payments).

Conclusion

Digitalization of tax reforms aim to modernize taxation, improve tax compliance, and reduce tax evasion, ultimately bolstering the overall economy of a country. By staying informed of these trends, businesses can better adapt to the evolving tax landscape and ensure compliance with the latest regulations.

Understanding indirect taxes and their implications is essential for businesses operating in today's global economy. By familiarizing themselves with the various types of indirect taxes, such as sales tax, VAT, and GST, and by staying informed about the latest changes to tax regulations, businesses can better navigate complex tax regulations and ensure compliance.

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THE IMPACT OF PERSONALIZATION AND EMOTIONAL TIGGERS ON CONSUMER ENGAGEMENT IN DIGITAL MARKETING

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Abstract

Digital marketing has transformed the way businesses interact with consumers. As traditional advertising methods lose their impact in a saturated market, personalized marketing and emotional triggers have emerged as critical tools in engaging consumers. Personalization refers to the use of individual consumer data to tailor marketing messages, while emotional triggers focus on evoking specific emotions to drive behaviour. This paper explores the role of these two strategies in fostering consumer engagement and influencing purchase decisions. The study examines how personalization and emotional triggers work together to create more relevant, impactful, and memorable marketing experiences. The paper further investigates the challenges of implementing these strategies and provides actionable insights for marketers. Finally, it offers recommendations for businesses to enhance their digital marketing efforts and build stronger customer relationships.

Keywords: Digital Marketing, Personalization, Emotional Triggers, Consumer Engagement, Consumer Behavior, Marketing Strategy, Emotional Appeals, Customer Retention, Purchase Decisions.

1. Introduction

In the evolving landscape of digital marketing, businesses are under increasing pressure to capture the attention of a constantly distracted audience. Consumers today are bombarded with information across multiple digital platforms, leading to a phenomenon known as “information overload.” To cut through this clutter and create meaningful connections with consumers, brands are turning to more sophisticated marketing strategies. Personalization and emotional triggers are two such strategies that have gained significant traction in recent years.

Personalization in marketing involves tailoring content, messages, and offers to individual consumers based on their preferences, behavior, and interactions with the brand. Emotional triggers, on the other hand, focus on tapping into consumers' emotions to drive decision-making, build connections, and influence purchase behavior. By combining these two elements, marketers are able to engage consumers more effectively and create a memorable brand experience.

This concept paper aims to explore the impact of personalization and emotional triggers on consumer engagement within digital marketing. It will examine the role of these strategies in enhancing consumer behavior, increasing brand loyalty, and ultimately driving business success.

2. Personalization in Digital Marketing

Personalization has become a cornerstone of modern digital marketing strategies. The rise of data analytics and the increasing availability of consumer data have made it easier for brands to customize their marketing efforts. Personalization involves using consumer data to create tailored experiences that resonate with individual preferences and behaviors. This can take many forms, including personalized recommendations, custom email campaigns, targeted advertisements, and dynamic website content.

2.1 The Role of Data in Personalization

Personalization is driven largely by data. Brands collect data through various channels, including website visits, social media interactions, email communications, and mobile app usage. This data provides valuable insights into consumer behavior, interests, purchasing history, and demographic details. By analyzing this data, marketers can segment their audience into groups with similar characteristics, allowing them to deliver more relevant and timely content.

For instance, e-commerce platforms like Amazon and Netflix leverage data to provide personalized product recommendations based on a user's past purchases or viewing history. These recommendations are not only more relevant to the consumer, but they also increase the likelihood of conversion.

2.2 Benefits of Personalization

Personalization offers several advantages for both consumers and businesses. For consumers, personalized marketing provides a more seamless and enjoyable experience by offering content, products, and services that match their individual needs. This sense of relevance increases consumer satisfaction and can enhance brand loyalty.

For businesses, personalization can lead to higher engagement rates, better conversion rates, and improved customer retention. When consumers feel that a brand understands their preferences and is offering products or services tailored to their needs, they are more likely to engage with the brand and make a purchase. In fact, research shows that personalized marketing efforts can lead to conversion rates that are up to six times higher than non-personalized efforts (SmarterHQ, 2020).

3. Emotional Triggers in Digital Marketing

While personalization ensures relevance, emotional triggers ensure that the message resonates on a deeper, more psychological level. Emotional marketing seeks to connect with consumers on an emotional basis, using storytelling, imagery, and messaging that evoke specific feelings or emotions. Emotions play a significant role in consumer decision-making, as consumers often make purchases based on how they feel rather than logical reasoning.

3.1 Types of Emotional Triggers

There are various emotional triggers that marketers use to create a stronger emotional bond with their audience. Some of the most commonly used emotional triggers in digital marketing include:

- **Fear**: Fear-based marketing, such as limited-time offers or highlighting what a consumer might lose by not purchasing, can prompt immediate action. This trigger taps into the fear of missing out (FOMO) and motivates consumers to act before the opportunity is gone.
- **Happiness**: Positive emotions such as joy, excitement, and satisfaction are commonly used in advertising to build a positive association with a brand. For example, companies like Coca-Cola often use uplifting advertisements to evoke feelings of happiness, warmth, and nostalgia.
- **Nostalgia**: Nostalgic marketing appeals to consumers' fond memories of the past, evoking positive emotions tied to previous experiences. Brands like Nike or McDonald's have effectively used nostalgia to connect with consumers on an emotional level.
- **Surprise**: Surprise can captivate attention and create memorable experiences. Unexpected twists or unorthodox approaches in marketing campaigns can make the message stand out and generate buzz.
- **Empathy**: Stories that elicit feelings of empathy, compassion, or kindness can build emotional ties with consumers. Brands like Dove have successfully used empathy-driven campaigns to promote inclusivity and self-esteem.

3.2 Emotional Marketing and Consumer Engagement

Emotions play a critical role in consumer engagement. Emotional marketing can create stronger brand recall, increase consumer involvement, and enhance the overall consumer experience. According to a study by Nielsen, emotionally connected customers are more than twice as valuable as highly satisfied customers, and they are more likely to purchase and recommend the brand to others (Nielsen, 2016).

When a brand evokes strong emotional responses, it fosters a deeper connection with consumers. This emotional connection not only drives purchase decisions but also encourages consumers to engage with the brand across various touchpoints, including social media, customer reviews, and word-of-mouth marketing.

4. The Synergy Between Personalization and Emotional Triggers

While both personalization and emotional triggers are powerful on their own, their true potential is realized when combined. When marketers personalize their content and simultaneously tap into emotional triggers, they create a marketing experience that feels both relevant and emotionally compelling. This synergy enhances consumer engagement by appealing to both the rational and emotional sides of the consumer's decision-making process.

For example, an online retailer may send a personalized email offering a discount based on a consumer's previous purchase behavior. By incorporating emotional language, such as "Don't miss out on this exclusive offer just for you," the retailer taps into both the consumer's sense of exclusivity (personalization) and their fear of missing out (emotional trigger).

Moreover, combining personalization and emotional appeals allows brands to create more memorable and impactful campaigns. Personalized messages make consumers feel valued and understood, while emotional triggers reinforce the connection by evoking strong feelings and encouraging action.

5. Challenges and Considerations in Implementing Personalization and Emotional Triggers

While personalization and emotional triggers offer significant benefits, implementing these strategies is not without challenges. Marketers must navigate various obstacles to create effective and ethical campaigns.

5.1 Data Privacy and Consumer Trust

The use of personal data for marketing purposes has raised concerns about privacy and data security. Consumers are becoming increasingly aware of how their data is used and are more likely to engage with brands they trust. Marketers must ensure that their data collection and personalization efforts comply with privacy regulations (such as GDPR) and are transparent about how consumer data is used.

5.2 Balancing Personalization with Over-Saturation

While personalized content can be highly effective, over-personalization can backfire. Consumers may feel uncomfortable if they perceive that a brand is "too familiar" or invasive in its marketing efforts. Striking the right balance between relevance and intrusiveness is key to maintaining a positive consumer experience.

5.3 Ethical Considerations in Emotional Marketing

Emotional marketing has the potential to manipulate consumer behavior by playing on vulnerable emotions. Marketers must be mindful of the ethical implications of using emotional triggers. It is important to avoid exploiting negative emotions in a way that harms consumers or misleads them into making decisions they would not have made otherwise.

6. Implications for Digital Marketing Strategy

To effectively leverage personalization and emotional triggers, marketers must incorporate these strategies into a broader, well-rounded digital marketing approach. This involves:

- **Data-Driven Campaigns**: Using data analytics to understand consumer preferences, behaviors, and needs to create personalized content that resonates with individuals.
- **Emotional Storytelling**: Incorporating storytelling techniques into digital campaigns to build emotional connections and engage consumers on a deeper level.
- **A/B Testing**: Regularly testing different personalized and emotional messaging strategies to determine which resonates best with the target audience.
- **Cross-Platform Consistency**: Ensuring that personalized and emotionally-driven content is consistent across various digital platforms to provide a seamless consumer experience.

7. Conclusion

Personalization and emotional triggers are two of the most powerful strategies in modern digital marketing. When used effectively, they can significantly enhance consumer engagement, increase conversion rates, and build long-term brand loyalty. By tailoring marketing content to individual preferences and invoking emotions, businesses can create meaningful connections with their audiences, resulting in greater customer satisfaction and long-term success. However, marketers must remain mindful of challenges related to data privacy, consumer trust, and ethical considerations when implementing these strategies.

To remain competitive in an increasingly digital and consumer-centric marketplace, brands must continue to innovate and refine their approach to personalization and emotional marketing, ensuring that their campaigns resonate with consumers on both a personal and emotional level.

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ROLE OF FINTECH IN FINANCIAL SECTORS IN INDIA

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Abstract

A Fintech to compete with traditional financial methods in financial services. Finance is seen as one of the industry's most vulnerable to distraction by software because financial services, much like publishing, are made of information rather than concrete goods. Ir is considered by many to be a relatively recent development and how it's very accurate using in industries. In Fintech companies are use a variety of technologies in nowadays, it's including AI, Big data, Block Chain, Robotic Process Automation and others. While it has evolved very quickly over the last decade, that's mainly due to advancements in technology.

Keywords: Fintech ,BigData, BlockChain, Finance Sector

Introduction

Fintech is usually applied to the segment of the technology startup scene that is disrupting sectors such as mobile payments, money transfers, loans, fundraising and even asset management. It should be creating new markets for them in starting time. Fintech is covered the Software, Mobile Applications, and other new technologies. In this new one created to improve and automate to additional form of finance for business andc ustomers also like this new technology.Around the years 2009 and 2010, many fintech companies such as Pay tm, Mobikwik, and Freecharge started making inroads into the country promising quick digital payments solutions. The demonetization drive of 2016, was the turning point for fintech companies in India. The real story of Fintech started in India at 2016 when the demonetization of the 500- and 1000-rupees currency notes happened.

Development of Fintech

Financial technology, perhaps, has been evolving ever since the banks started providing online services. The term 'fintech' also gained traction only recently. However, the origin of fintech, in it primitives form, canbetraced back to the latter half of 19^{th} Century when people began moving money through telegrams and morse code. More specifically, the interlink age of finance and technology has a long history and together they evolved through three distinct eras **(Arner et al., 2015)** as follows:

Fintech1.0 (1866–1967):Pre-digitization Era

Development of the fundamental infrastructure for the first major attempt of financial globalization with the introduction of telegraph in 1838 and laying of the first successful transatlantic cable in1860, perhaps, can be considered the earliest instances of fintech. Subsequently, the introduction of Automated Teller Machine (ATM) in 1967 by Barclays Bank marked the inception of modern era of financial technology. The code breaking tools that were commercially developed into early computers by IBM and invention of handheld calculators by Tex as Instruments in1967werealsothegiantleaps in this direction. In 1950s, credit cards were introduced in America by Diners' Club (1950), Bank of America (1958) and American Express (1958). Interbank Card Association (presently MasterCard) was established in 1966. In 1964, Xerox Company came up with its first commercial version of fax machine.Thus,by1966,aglobal telexnet work was already in place that provided the foundation for the next round of fintech turnaround.

Fintech2.0(1967-2008):Era of Traditional Digital Financial Services

In the sphere of payments and settlements, the Inter-Computer Bureau was initiated in UK in 1968. This subsequently formed the ground for today's Bankers' Automated Clearing Services (BACS). A somehow similar arrangement, the US Clearing House Interbank Payments System (CHIPS) was introduced in 1970. Fedwire, which was operating as a telegraphic system since 1918 was also converted in to an electronic system. Responding to the need for a cross-border inter connected payment system, Society of Worldwide Interbank Financial Telecommunications (SWIFT) was established in 1973. Soon after this, the fall of Her statt Bank in 1974 raised the need for addressing the increased risk of international financial linkages. This triggered the regulatory intervention in form of a series of international soft law agreements on devising a robust payment and settlement system. In the field of securities transactions, the establishment of NASDAQ in USA in 1971 and subsequently the National Market System, brought the end of physical trading era in securities dated back to 1600s. In the personal banking segment, introduction of online banking in USA and UK (by Nottingham Building Society) in 1983 marked the beginning of fintech in personal transactions. Financial institutions also started applying fintech in their internal operations. By 1984, usage of Bloomberg terminals became a common phenomenon. Some even argued the possible role of computerized trading system (which automatically bought and sold securities based on pre-set price levels) behind the great 1987 stock market crash. Regulators from the late 1980s, therefore, started to consider the fintech issues while framing regulations. Moreover, financial services, from this very period, became largely a digital industry with ever increasing volume of transactions among the financial market participants across the globe.

Internet set the next stage of fintech development since 1995 with the use of WorldWideWeb(www) to provide online account checking by Wells Fargo. By 2005, banks without physical branches were introduced (e.g., ING Direct, HDFC Direct) in UK.

India was also not far behind in this fintech revolution .Indian banking sector adopted computerization in late 1980s. In 1987, HSBC bank introduced the first ATM. ECS was started by RBI in 1990.

In 1991, India joined SWIFT .In 1996 ,online banking was introduced by ICICI which was immediately followed by other banks such as HDFC bank and IndusIndbank. In2002,mobile banking ,inform of SMS banking was introduced. RBI started RTGS in 2004 and NEFT in 2005. Cheque Truncation System (CTS) was introduced in 2008.

Fintech3.0(2008–till date):

The Great Financial Crisis of 2008 caused a massive turnaround leading to the third stage of fintech evolution, or better called revolution .Financial crisis and its after effects changed the public perception about banking services, increased the amount of regulatory scrutiny on banks and above all destabilized the economic conditions across nations. As a result, the business policies and structures of banks were reshaped to provide banks more risk absorbing capacity. Banks also turned to P2P lending platforms and other innovations. Though not directly, but the reduced job opportunities following the financial crisis brought about a start-up boom with extremely talented entrepreneurs floating their business ideas in diverse fields including finance. India, with a pool of young and skilled population soon joined this bandwagon.

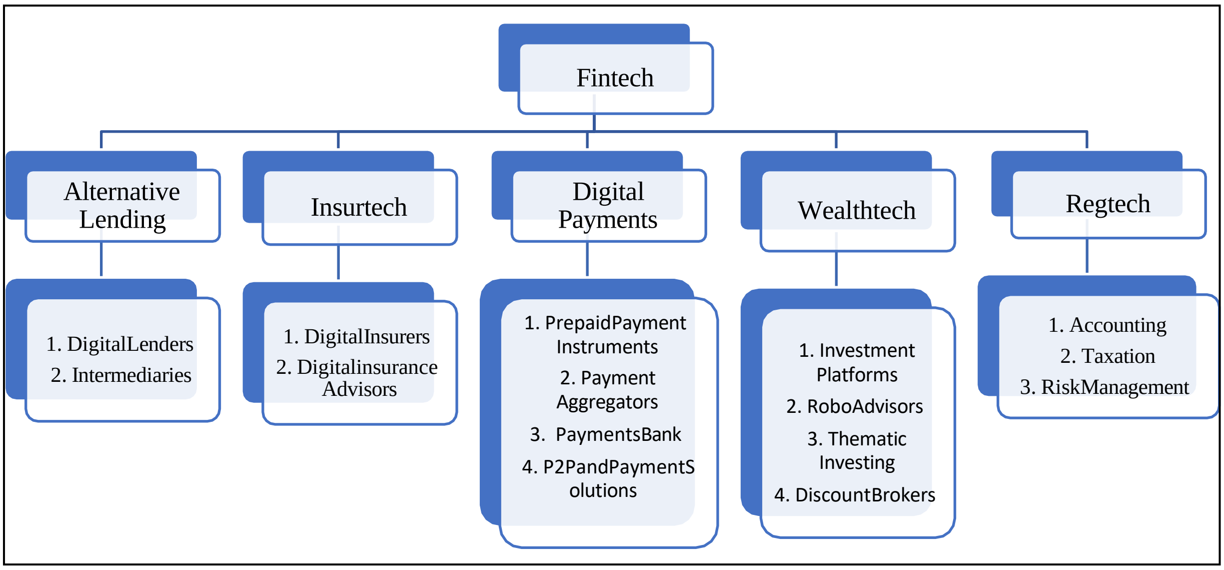
India was well off during the Great Financial Crisis because of its robust regulatory framework for the banking industry. It strengthened such framework further by incorporating the tech angle in framing the regulations. In 2010, RBI introduced IMPS (Immediate Payment Service). In 2016, the Unified Payment Interface (UPI) took the digitization in financial transactions to a new level. The demonetization initiative of 2016 immensely promoted digital payment adoption and contributed significantly to the rise of a whole host of digital payment solution providers and financial innovators.

Fintech Environment in India

Fintech firms have reshaped the Indian financial services sector including lending,insurance, digital payment, wealth management, regulation and others with rapid pace.

The fintech environment in India can broadly be classified in to the following categories:

Fin tech Environment in India



Alternative Lending:

These segments uses client data and technologies like Artificial Intelligence and Machine Learning for application screening and loan disposal and also provide aggregation services. The key sub-segments are –

- Digital Lending (Retail lending–e.g.,InstaPaisa,Rupeek;)
- Intermediaries including P2P platforms (e.g., LenDenClub)

Insurtech:

This segment is focusing on selling insurance products at the point of purchase of a product or service, digital settlement of claims, small ticket insurance (Sachet Insurance) and aggregation services. The key sub-segments are –

DigitalInsurers(e.g.,DigitandAcko)

DigitalInsuranceAdvisor(e.g.,Policybazar,Coverfox.com)

Digital Payments:

This segment is the most funded section of the fintech firms in India which have so far got the maximum government support to lead the adoption of electronic payment after the 2016 demonetization drive.

The sub-segments are –

- PrepaidPayment Instruments
- PaymentAggregators(MobileandDigitalWallets)-e.g.,Paytm,Freecharge,Phonepay
- PaymentGateway–e.g.,BillDesk, CCAvenue
- PaymentBank–e.g.,PaytmPaymentBank
- P2PPayment–e.g.,Phonepay

Wealthtech:

These firms use sophisticated technologies including AI, Machine Learning and Analytics to offer investment and wealth management services.

The key sub-segments include –

- InvestmentPlatform–e.g.,ETmoney,Smallcase
- DigitalDiscountBrokerages–e.g.,Zerodha
- ThematicInvesting–e.g.,Trendlyne
- Roboadvisor-e.g.,Kuvera,Scripbox

Regtech:

These firms offer solutions targeted at the new and complex regulations that traditional financingfirmsandfintechfirmsaresubjectto.Theyalsoprovideriskmanagementservices.Thekey sub-segments are –

- Accounting–e.g.,Khatabook
- Taxation–e.g.,Cleartax, EaseMyGST
- RiskManagement–e.g.,CustomerXPs

- E-KYC–e.g.,Signzy,inVOID

Fintech Impact in Financial Sectors

Fintech companies offer data analytics and insights that allow banks to gain valuable customer insights and increase efficiency in their operations. In these powerful analytical tools, banks can better understand customer needs and design products and services to meet those demands. Application of Fintech have revolutionized the banking sector, providing banks with increased efficiency, cost reduction, improved security, enhanced customer experience, increased transparency, accessibility, faster payments, and more.

It should be promoting financial stability through channels of cloud technology, artificial intelligence, and data technology. Individuals are gaining confidence in utilizing Fintech services as a result of the numerous adaptable financial options offered by various companies. Due to digital banking, people no longer feel compelled to establish a bank account. Fintech companies can help boost competition and accelerate financial inclusion in India by lowering costs and enhancing access to financial services for people in low-income groups,ruralareas, and other underserved sectorsoft the Indianeconomy. Fintechraises labor productivity, which refers to output per worker or per hour worked, and definitely fosters economicgrowth. It hasasignificant favorableregionaland provincialeffect onGDP growth in every country.

The fintech (financial technology) industry has had a significant impact on the financial sector in recent years. Fintech refers to the use of technology and innovation to improve and enhance financial services. Here are some key ways in which fintech has impacted the financial sector:

1. **Digital Payments and Transfers:** Fintech companies have revolutionized the way we make payments and transfers. Mobile payment platforms, such as PayPal, Venmo, and Alipay, have made it easier and more convenient for individuals and businesses to send and receive money digitally. These platforms have reduced the reliance on traditional banking systems and enabled faster and more efficient transactions.
2. **Peer-to-Peerlendingand crowd funding:** Fintechhasdisruptedthelending industryby introducing peer-to-peer (P2P) lending platforms and crowd funding platforms. P2P lending connects borrowers directly with lenders, cutting out the traditionalintermediaries like banks. Crowd funding platforms allow individuals and businesses to raise funds from a large number of people for their projects or ventures. These platforms have increased accessto capitalfor borrowersandprovided new investment opportunities for individuals.
3. **Robo-Advisors and Wealth Management:** Fintech has transformed the wealth management industry with the introduction of robo-advisors. Robo-advisors are online platforms that provide automated investment advice and portfolio management based on algorithms and user input. They offer lower fees compared to traditional financialadvisors and have made investment services more accessible to a wider range ofinvestors.
4. **Blockchain and Cryptocurrencies:** Fintech has popularized blockchain technology and crypto currencies like Bitcoin and Ethereal. Blockchain, a decentralized and secure digital ledger, has the potential to streamline various financial processes, such as cross-border payments, supply chain management, and smart contracts. Cryptocurrencies have gained traction as alternative digital currencies and investment assets, although their adoption and regulatory environment vary across countries.
5. **Open Banking and APIs:** Fintech has facilitated the concept of open banking, which involves the sharing of financial data through secure application programming interfaces (APIs) between different financial institutions and third-party providers. Open banking enables consumers to access and manage their financial information in a consolidated manner and allows fintech companies to develop innovative products and services using this data.
6. **FinancialInclusion:** Fintechhasplayedacrucialrole inpromoting financialinclusionby providing access to financial services for underserved populations. Through mobile banking, digital wallets, and microfinance platforms, fintech has expanded financial access to individuals in remote areas or those without traditional banking relationships.

This has the potential to boost economic growth and reduce inequality.

7. **Regulatory Challenges and Collaboration:** The emergence of fintech has posed regulatorychallenges for governments and financialauthorities. Regulatorsneed to strike a balance between fostering innovation and ensuring consumer protection, privacy, and financial stability. Collaboration between traditional financial institutions and fintech startups has become more prevalent as bothparties seek to leverage each other's strengths and navigate regulatory frameworks.

Overall, fintech has transformed various aspects of the financial sector, making financial services more accessible, efficient, and inclusive. As technology continues to advance, we can expect further disruption and innovation in the years to come.

Fintech Future Technologies

The fintech sector, currently holding a mere 2% share of global financial services revenue, is estimated to reach $1.5 trillion in annual revenue by 2030, constituting almost 25% of all banking valuations worldwide. The constantly evolving nature of fintech makes it adynamicandexcitingplacetowork.In2023, cyber securityandautomationremainkey trends in fintech. Financial technology use increases the risk of cyber-attacks, making cybersecurity a top priority.

Artificial Intelligence: AI streamlines their operations and reduces costs, while still offering high-quality financial services to their customers.

- Cloud Computing: Using to fintech technology in industries it should be quickly and easily scale their operations up or down as needed without having to invest in costly hardware and infrastructure
- Block Chain: Block chain technology is a data management system using complex cryptography to power many cryptocurrencies and other decentralized applications.
- **IoT:** It's also a cyber-security tool, providing a secure way to process and encryptpayment information and the fintech industry more efficient, reliable and secure.

Conclusion

Fintech is very fast growing and let ofoffers and opportunities to develop the quality of financial services providing to the industries. It should improve the customer satisfaction, financial inclusion, welfare gains, economic growth and potential meet the new risks and threatenfinancialstability. It helps in managingresourcesefficientlyand findseffectiveways to utilize financial accounting information. Fintech find the effective ways to consume the financial accounting and helps in managing the resources to efficiently using in companies. Fintech is utilized to help companies, business owners, and consumers better manage their financial operations, processes, and lives.

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A STUDY ON CONSUMER ATTITUDE TOWARDS READY-TO-EAT FOOD WITH SPECIAL REFERENCE TO COLLEGE STUDENTS IN VIRUDHUNAGAR DISTRICT.

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Abstract

Ready to eat (RTE) food is also known as 'Convenience Food' or 'Easily Prepared Food'. In order to enhance the easiness of feasting; it is equipped; majorly through processing. This type of food is generally ready to consume without any more preparation. It can be easily transported, or it may have a long shelf life or may also offer a blend of such convenient characters. The term RTE is seldom applied to them; as the restaurant food meets the same definition. RTE foods comprise of convenience dried products, frozen foods such as only to fry starters, cake mix, and shelf-stable foods and snack foods. These foods are such that mostly need not be cooked; they either just need to be fried or heated. People store these on pantry shelf or in the refrigerator or freezer, until they are ready to use them. Although RTE food is convenient, some require special handling to ensure food safety.

Key words: Convenience Foods, Taste, Precooked items and Nutrition.

INTRODUCTION:

India has one of the best street food cultures on this planet, hands down. But when it comes to Health and Hygiene, meh. You are a working professional and crave for food, what you prefer "cooking" which takes your lots of time and what if you are a bad cook. So what next! RTE that is Ready- to- Eat Food. The Ready-to-eat products market in India is growing due to several reasons including the increase of working women in the country, busy schedules and companies providing a range of products to make people eat more. RTE food industry comprises companies that manufacture foods that can be eaten instantly and the foods that do not require any additional cooking or ingredients upon opening. Ready to eat foods are packaged in airtight sealed solutions and are manufactured to last fresh for long time in packed lunches, frozen food, home meal replacements, ready meals and more. Frozen food is an alternative to fresh, canned and cooked foods, which is most dynamic and largest sectors of the food industry. The major factor driving the growth of the frozen food market is convenience.

History of Ready-to-Eat food:

India is most versatile when it comes to food but when it comes to ready to eat food market it is certainly behind of many of the developed nation. Instead of saying "ready to eat" it will more correctly to say ready to cook. Although the ready to eat (RTE) food category was first introduced in India in 1987, it was not well received by Indian consumers due to the dependence on traditional cooking. In the early 2000s, with the advent of new technology that improved the shelf life of products and the growth of storage and distribution centers, RTE products began to gain popularity. Several segments were introduced in the industry resulting in an increase in product differentiation. One of these segments was developed by using retort technology, and came to be known as the heat and eat food industry.

Maggie no doubt one of the most famous brand in India, “Maggi” is synonymous with instant noodles, and had 90% market share in India prior to a nationwide ban by the Food Safety and Standards Authority of India. Following the ban, the market share was reduced to 53% in India.

According to data research company Nielsen, the breakfast mixes market is growing at 17% and is currently pegged at Rs 275 crore. The RTE meals market is currently valued at Rs 23 crore. It grew at a compounded annual growth rate of 3–5% in the last five years. India is a formula one market; it’s the engine of growth of the world, so chances are there to be a growth rate of 10%.

TYPES OF READY-TO-EAT FOOD:

Vegetarian Food	Non-Vegetarian Food
Alloo Matar	Chicken Curry
Palak Paneer	Butter Chicken
Sarso Ka Sang	Karahi Chicken
Chana Masala	Mughalai Chicken
Kadi Pakora	Mutton Masala
Cheese Tomato	Mutton Korma
Dal Makhani	Karahi Mutton
Rajma Masala	Mutton Biryani
Pav Bhaji	Tandoori Tikka

RATIONALE OF RESEARCH

Ready-to-Eat food has created a lot of buzz in the market. RTE is used by a lot of different people be it soldiers, navy forces, astronauts, single men, working women, students staying abroad etc. and the list is endless. A single type of product used by numerous different set of people gained a lot of market attention. There are several people who depend on RTE food packets for their daily meals.

During the course of research the researcher has come across a lot of pros and cons regarding the Ready-to-Eat food packets. Post 2010, we have seen a rise in the number of people who have started focusing more on their health due to the rise in the number of chronic diseases. This proved to be a major hit for the RTE food industry and even for the people who were dependent on them. The target customers are trying to find healthy alternatives to RTE food packets. A health nutritionist Cynthia Sass suggested five alternatives to frozen food packets.

Purchase of Salads from a super market: According to Cynthia freshly cut salads would be a better option to choose than the preservatives filled frozen food packet.

Fast Casual Meals: There are a lot of casual fast meals which are available in the market like hot dogs, sausages, cottage cheese rolls, burgers, and chipotle salads etc. which are freshly made and are a better choice for a meal than RTE food packets.

Pack a Meal: The nutritionists also suggests an option of packing a dry meal like all cut vegetables in a zip lock bag with a little olive oil and just mix it when you need to eat it.

Smoothies and Shakes: These are not just meant for breakfast; fresh fruit juices and shakes can be had for a meal as well. This would be a very healthy and a balanced meal than the one filled with preservatives.

Make a Meal ahead of Time: There are many of us who are comparatively free on weekends rather than weekdays. We can cook our whole week meals and freeze it in our freezer and keep it ready day wise. This is a way much better alternative as we have cooked it by our self and we exactly know what are the ingredients used as compared to the RTE food packets; where we are unaware of the ingredients used in the packet.

The researcher’s husband is a sea fearer and most of the days they need to rely on RTE food packets as fresh foods are not possible each and every day. To understand their point of view on the same the researcher undertook this topic. There is a lot of time and energy saving which the RTE food provides and hence they are also known as Convenience Foods.

Along with knowing the objective of undertaking this research topic, the researcher has to be aware about the problem which the society faces at large. The research carried out by the researcher should try to solve the issues which are prevalent in the society regarding RTE food products. The next sector would state the problems which the people face for RTE food products.

Features of Ready-to-Eat Food:

Cooking not required: In most of the RTE food there is no need to cook. For this reason such types of food are famous. As they do not require any cooking procedure; it saves a lot of time and efforts.

Long shelf life: This is one of the important characteristic of RTE food. Freshly cooked food gets spoilt in a day or two. But the RTE packets stay for a long time until removed from the pack (due to the preservatives). Further, it is also to be noted that every RTE pack also has an expiry date which is mentioned on the packet of the RTE, depending upon the ingredients added.

Shelf-stable convenience foods are further categorized as:

Ready-to-Eat (RTE) and Ready-To-Serve (RTS) food – example: Dosas, idlis batter, pav bhaji, meat products like pre-cooked ham, sausages, chicken products, curry gravies (vindaloo, palak paneer), rice, vegetables like aloo chole, navratan kurma, channa masala, chapattis etc.

Ready-to-Cook food – example: instant mixes like kulfi mix, cake mixes, gulab-jamun mix, falooda mix, ice cream mix, jelly mix, pudding mix etc., pasta products like macaroni, noodles, vermicelli etc.

No further preparation: Most of the time no further preparation is required and can be directly consumed. But there are some RTE foods which either need hot water or do require little preparation time.

Portable: Unlike freshly cooked food, which is difficult to move from one place to another; RTE is easily portable. This feature is very useful when food is required while travelling or picnics (which almost gives taste of home-made food).

STATEMENT OF PROBLEM

In today's fast-paced world, ready-to-eat (RTE) food products have gained significant popularity, especially among college students who often have limited time for meal preparation. The increasing academic work load, changing life style patterns and the influence of urbanization have contributed to the growing consumption of the convenience foods. However, despite the convenience they offer, concerns related to health, nutrition, affordability and taste preferences influence consumer attitudes towards RTE food.

OBJECTIVES OF THE STUDY

- To study the consumer attitudes of the college students towards Ready-to-Eat foods.
- To measure the consumer's satisfaction level of the Ready-to-Eat foods.

RESEARCH METHODOLOGY

A research it defined as a "systematized efforts to gain a new knowledge" research methodology is way to systematic solve the problem. Research methodology generally refers to the systematic procedure carried out in any project of suitable classification and service of the different of the study as to the objective, scope and limitations of the study. Research methodology describes how the research study was undertaken. This includes the specifications of research design, sampling design and sample size, methods of data collection and tools for analysis.

RESEARCH DESIGN:

The research design used in this project by researcher is the descriptive research design. Descriptive research design is adopted for analysis the data. A descriptive study is undertaken in order to ascertain and describe the characteristics of the variables related to the study.

SAMPLING DESIGN

SAMPLE SIZE

For this present study, data has been collected from 60 college students in Virudhunagar District Only.

DATA METHODS OF COLLECTION

The data collected in two ways.

- Primary data
- Secondary data

Primary Data:

The Primary Data are those which are collected as fresh and for the first time and thus happen to be original in character. The researcher here used the questionnaire, which includes open ended and multiple choice questions.

Secondary Data:

Secondary Data are those which are collected for some earlier research work and are applicable in the study the Researcher has presently undertaken. The secondary data has also collected from various journals, websites and books.

COMPANIES SELLING READY-TO-EAT OR READY-TO-COOK FOOD PRODUCTS

There are many brands available in India which offers ready to eat food. You can have noodles, soup, sabji, dhal paste, sambhar, idlibatter and much more. Currently, there are many Indian and Foreign companies selling RTE food products. Below is the top fifteen list of RTE companies in India.

Mavalli Tiffin Room (MTR):

The Mavalli Tiffin Room is the brand name of a food related enterprise in India. Having its origin as a humble mess located on Lalbagh Road in Bangalore, it has ten other branches in Bangalore, as well as one in each of Udupi, Mysore, Singapore, Kuala Lumpur, London, Bellevue and Dubai. MTR created the South Indian breakfast item, Rava Idli. While the packaged foods division was acquired by Orkla of Norway, the MTR chain of restaurants continues to be run by the original family that started it. The Mavalli Tiffin Room was founded as a restaurant by Parampalli Yagnanarayana Maiya and his brothers in the year 1924. In the 1970s, when India was under emergency, a Food Control Act was introduced in 1975 which mandated that food was to be sold at very low prices. This move made it difficult for MTR to maintain high standards in its restaurant business and forced t to diversify into the instant food businesses, selling ready-to-eat snacks such as chutneys and rasams. Since then, MTR has expanded and diversified, with MTR Department Stores opened next to the restaurant. Currently, the MTR brand represents two separate entities; the Mavalli Tiffin Room restaurant business and MTR Foods, the pre-packaged food business.

Haldiram’s:

Haldiram Snacks Food Pvt. Ltd., doing business as Haldiram’s is an Indian multinational fast-food restaurant chain, founded in 1937, as a confectionery and deserts shop in Bikaner, Rajasthan, by Ganga Bhishen Agarwal. It is currently based in Noida. Haldiram’s is also a FMCG company as most of its restaurants have a integrated retail section, where packaged Indian Snacks and confectioneries are sold under its own brand. In order to drive expansion, the company’s first manufacturing plant was started in Calcutta (now Kolkata). In 1970, a larger manufacturing plant was established in Jaipur. Another manufacturing plant was established in New Delhi in the early 1990s. In 2003, the company began the process of developing convenience foods to be marketed to consumers. In 2014, Haldiram’s was ranked 55th among India’s most trusted brands according to the Brand Trust Report; a study conducted by Trust Research Advisory. In 2017, the company was named the country’s largest snack company. In 2022, it was announced that the packaged snacks businesses of Delhi-based Haldiram Snacks and Nagpur-based Haldiram Foods International would be first demerged and then merged into an entity named Haldiram Snacks Food. Delhi based brothers Manohar and Madhusudan Agarwal obtained a 56% stake of the merged entity, while Nagpur-based Shiv Kishan Agarwal received the remaining 44%. **South Indian breakfast at Haldiram’s restaurant, Gurgaon.**

Haldiram's has over 410 products. Its product range includes traditional namkeens, western snacks, Indian traditional and contemporary sweets, cookies, sherbets, and pickles. Products such as gulab jamun and Bikaner bhujia and papadam are popular. The company also produces ready-to-eat food products. In the 1990s, the production of potato-based foods was enabled by the importation of machinery from United States designed of these purposes. Haldiram's products are marketed at various retail locations such as bakeries and confectionery stores, among others, and also on various commercial websites. Prior and up to August 2003 in the United States market, the company's products were limited to potato chips. In the United States, the company's products are carried by many Indian supermarkets and are popular with the Indian diaspora.

Nestle India Limited:

Nestle India Limited is the Indian subsidiary of Nestle. Nestle started its business in India in 1912 as "The NESTLE` Anglo-Swiss Condensed Milk Company (Export) Limited". After Independence of India, the company incorporated in India in 1959. Nestle produce milk products such as dairy whitener, condensed and toned milk, yoghurt, milk based formula foods etc., Nestle also products noodles, sauces, seasonings, pasta and ready to eat cereals, instant coffee and tea powders. It also produces ready to drink beverages and confectionery. Nestle India manufactures international quality products under popular brand names such as Necafe, Maggi, Milky Bar, Kit Kat, Bar One, Milkmaid and Nestea. Recently Nestle India has also introduced daily consumption products like Nestle Milk, Nestle Slim Milk, Nestle Dahi and Nestle Jeera Raita. Nestle` India also exports its products. Currently Nestle India has its head Office at Gurgaon, India with 9 manufacturing units and 4 branch offices employing over 8000 people. Currently, Nestle India Limited is owned by Nestle Group with 59.8% shareholding. Nestle India shares are traded on both NSE and BSE. Nestle India Limited share price can be checked at Enrich Money's stock analysis page.

Gits Food Product Limited:

Gits Food Products Pvt. Ltd. Produces packaged food products. It offers ready meals, instant mixes, savories, and dairy products. The company was founded in 1963 and is based in Mumbai, India. Gits pioneered the convenience packaged food segment by being the first company to introduce the concept of Instant Mixes in India. Since inception, the quality policy, as set by the founders is simple and valuable: "We will not sell what we don't relish ourselves". It was founded as a small family enterprise in 1963 by the partners Gilani and Tejani. GITS is now at the forefront of the instant foods revolution in India. GITS Produced ready-to-eat and ready-to-cook concept with a range of dehydrated soup mixes such as tomato and vegetables. The company has also diversified into Dairy products in 1996. The composite Dairy plant manufactures a range of Milk powder as well as Pure Ghee has special grade AGMARK quality symbol.

College students consumes Ready-to-Eat foods

Table- 1

Particulars	Frequency	Percentage
Daily	1	1.67
Weekly	38	63.33
Occasionally	18	30
Rarely	3	5
Total	60	100

Source: Primary Data

Inference:

It is inferred from above table that 1.67 percent of the respondents says that they are consumes Ready-to-Eat food daily, 63.33 percent of respondents says that they are consumes RTE food weekly, 30 percent of respondents says that they are consumes RTE food occasionally, 5 percent of the respondents says that they are consumes RTE food rarely.

Satisfaction level of Ready-to-Eat food consumed by college students

Table- 2

Respondents	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	Total
Frequency	13	27	12	3	5	60
Percentage	22.22	44.44	19.44	5.56	8.33	100

Inference:

It is inferred from above table that 22.22 percent of the respondents says that they are highly satisfied with their consumes of Ready-To-Eat (RTE)food, 44.44 percent of the respondents says that they are Satisfied with their consumes of Ready-To-Eat food, 19.44 percent of the respondents says that they are Neutral with their consumes of Ready-To-Eat (RTE) food, 5.56 percent of the respondents says that they are dissatisfied with their consumes of Ready-To-Eat (RTE) food, 8.33 percent of the respondents says that they are highly dissatisfied with their consumes of Ready-to-Eat foods.

CONCLUSION:

Consumer Attitude may be defined as a feeling of favorableness or unfavorableness that an individual has towards an object. It refers to a product, brand name, service or an advertisement. As we, all know that an individual with a positive attitude is more likely to buy a product and this results in the possibility of liking or disliking a products. It is a learned tendency to behave in a consistently favorable or unfavorable manner with respect to the given object. Consumer Attitude basically comprises of beliefs towards, feelings towards and behavioral intentions towards some objects. Beliefs plays a vital role for consumers because it can be either positive or negative towards an objects. These components are viewed together since they are highly interdependent and together represent forces that influence how the consumer will react to the object. Attitude can be fixed way of thinking when it endures for a longer time. Attitude towards a certain behavior is based on the expectations and beliefs of the consequences as a result of particular behavior. The **Ready-To-Eat** food market has experienced significant growth in recent years, driven by increasing demand for convenient and hassle-free food options. This study has provided on overview of the ready-to-eat food market, including its current trends, opportunities and challenges. Ready-To-Eat (RTE) Food market is poised for continued growth, driven by increasing demand for convenient, healthy and sustainable food options. Manufactures must prioritize innovation, sustainability and consumer wellness to remain competitive in this dynamic market.

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A STUDY ON FACTORS INFLUENCING ONLINE SHOPPING BEHAVIOUR AMONG COLLEGE STUDENTS IN VIRUDHUNAGAR DISTRICT

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Abstract

The rise of e-commerce has significantly transformed shopping behavior, especially among college students who form a major demographic of online consumers. This study aims to investigate the factors influencing online shopping behavior among college students in Virudhunagar. The research explores various aspects, including socio-economic factors, technological accessibility, product variety, price sensitivity, and convenience. A survey methodology was employed to collect data from a sample of college students, with the analysis focusing on their purchasing habits, preferences, and the perceived advantages and challenges of online shopping. The findings reveal that convenience, cost-effectiveness, and the availability of a wide range of products are key motivators for online shopping among students. Additionally, factors such as peer influence, security concerns, and digital literacy were also found to play a significant role in shaping their online shopping behavior. This study provides valuable insights for marketers and e-commerce platforms to better understand the preferences and behavior or college students in the region, helping them tailor their strategies for this growing market segment.

Key words: Internet, Online shopping, Convenience, Consumer Behaviour.

Introduction

Online shopping has become essential part of modern life, especially among college students. With the growth of internet access and digital platforms, many students are turning to e-commerce for its convenience, variety, and competitive pricing. College students, who are tech-savvy and often have limited time and money, find online shopping to be an easy way to purchase products ranging from clothing to gadgets without the need to visit physical stores. Understanding what influences their shopping behavior can help businesses target this growing market more effectively.

This study focuses on exploring the factors that shape online shopping behavior among college students in Virudhunagar. The research aims to understand how different factors, such as social media influence, peer recommendations, ease of use, and financial constraints, affect their buying decision. By examining these factors, the study seeks to provide insights that can guide online retailers in meeting the unique needs and preferences of this consumer group. Through this analysis, the study aims to contribute to a better understanding of the online shopping trends among college students in the region.

Definition

According to Kotler & Keller, 2016 Online shopping behavior refers to the decision making process of consumers when purchasing products or services through digital platforms. It is influenced by various factors such as convenience, price sensitivity, product availability, trust, digital literacy, and social influences

E-Commerce Development:

Electronic business has seen an exponential development predictable in more noteworthy utilization of this contraption by the merchants. Also the opposition in online business is escalated. In this manner it moves toward becoming added significant for online retailers to acknowledge the predecessor of blockhead tolerating of web based shopping. Such capacity is money to sucker accord the board, which has been acclimated as a capable business activity to achieve accomplishment in the digital financial market. English director Michael Aldrich developed web based shopping in 1979. Web based shopping (some of the time acknowledged as e-tail from 'electronic retail' or e-shopping) is a life systems of digital financial business which enables customers to anon purchase appurtenances or casework from an operator over the internet application an internet browser. Elective names are: e-web-store, e-shop, e-store, Internet shop, web-shop, web-store, online store, online customer facing façade and fundamental store. On the off chance that people purchase things, they will name in a settlement legitimate procedure.

Online Shopping Consumer Decision Making:

Online shopping is the action of affairs appurtenances and casework from merchants over the internet. Since the actualization of the internet, merchants accept approved to advertise their articles to humans who absorb time on internet at their convenience. In the accelerated change in technology and addition of new Electronic high tech accessories allure the adolescent academy travelling apprentice for their affairs and cachet and concern for new launches accomplish them boutique online.

Decision making is the procedure of lessening any wavering or vulnerability about the accessible choice with a specific end goal to accomplish a down to earth and sensible decision.

It is a procedure of choosing an items or administrations to determine a specific issue. Buyers settles or choice all the time. Customer choices are regularly the consequence of a solitary issue encourage all the more once the choice procedure starts, it might advanced and turn out to be more intricate with different objectives. As the buyers moves from a low level of inclusion with the buy to abnormal state of association basic leadership turn out to be more perplexing. Choice procedures are not unmistakable yet rater mix into each other. The basic, leadership is impact by many components, for example, social, culture, training, race, identity, plan of action accessibility and past experience.

Online Shopping Behavior :

Web based shopping otherwise called web based obtaining or online expand, alludes o the utilization procedure by which clients fulfill shopping request through web fro the report of China web based shopping industry improvement (2008-2009), web based shopping can be characterized as the procedure of dealers conveying items or administration to customers, and the components of data stream, co-ordinations that are applicable to this conveying procedure and each connection of generally procedure are done with the assistance of web, Web based obtaining in this theory is mostly decide as a genuine buying conduct that fulfill based on web innovation execution. As the advancement of web innovation and the improvement of web based business advertise, internet shopping turns into a spic and span singular utilization design for purchasers and gets a developing number of consideration from open. Lately, there is a lot of researchers doing research on affecting elements for client internet buying conduct from various perspectives. For instance, in China, Wang (2001) executed an exploration from the sides of socioeconomics, client attributes, exchange security, and online storekeeper to dismember the components that influence customers' web based shopping conduct and to construct an affecting element mode. While some others did the comparative research from the parts of web based shopping dangers, stocks.

Characteristics of Students

High scholars are brand cognizant yet not really mark faithful. Companions, whose conclusions they esteem, vigorously to young ladies. The piper Jaffray report expresses that companions had the most impact over teenager buy choices and around 50 percent of both guys and females and said online networking affected them. Shopping is a centre social movement for teenaged young ladies who will probably be influenced by famous people than young men. 'The Teenage Girl as Consumer and Communicator,' a 2010 report form Euro RSCG Worldwide PR, demonstrated that teenaged young ladies are savvy customers with more than 60 percent sitting tight for things to go at a bargain before making a buy. Seventy-seven percent said they will probably purchase a diminished value article than one at the maximum.

Online purchase Intension of college students:

Expectation eludes o the degree of cognizant exertion that an individual will take after to favour his/her conduct; goal is likewise viewed as one of the motivational segments of conduct (Ajzen 1991). Buy goal will happen when an individual arrangement to purchase a specific ware or administration later on. With regards to E-commerce, online buy goal can be characteristics has a circumstance when a manyearnings to purchase a specific item or administration through the site.

Statement of the problem

Young consumers are found to be favored online shopping better than in retail store based purchase on recent years. The specialist distinguished the announcement of issue through different writing study referred to that there has been significant components that change the conduct of understudies in the ongoing decade. They are eager to encounter and to have a go at utilizing the new innovation. In this way the understudies are demonstrating more enthusiasm on web based shopping. Be that as it may, all things considered, circumstance understudy's conduct towards web based shopping isn't up agreeable to them. They confronting more issues like they can't contact and feel item, request takes a few days to convey delivery are frequently inordinate, poor after deals administration, merchandise exchange is troublesome, absence of access of require innovation, saw danger of electronic shopping, security of online exchange, PC education and utilization of charge card and so on., Based on the over few distinguished issues, there are some different investigations worried on other zone like marketing factors, website factors, customer trust worthiness, reference factor, psychological factors, online distribution but no study found so far in district wise on factors influencing online shopping among the college students.

Objectives of the study

- To study the consumers preference towards online shopping
- To analyze the factors influencing the online shopping behavior of college students.

Research methodology

Methodology deals with the research design, selection of samples, methods of data collection and data analysis.

Research design

Research design is nothing but a scheme of work, to be undertaken by a research at various stages. Pauline V.Young states that "Research design is the logical and systematic planning and directing and directing a piece of research". A research design should cover the area of study, field of study, size of sample, nature of data, method of data collection and data analysis. The person study has been explanatory and descriptive in nature.

Sampling technique

Sampling design

Convenient sampling method has been adopted for studying the factors influencing online shopping behavior among college students.

Sampling size

In order to collect the necessary information from the online shopping behaviour, preferences, and the factors influencing their decisions among college students, 80 respondents were collected.

Collections of Data

For the study in hand both the primary and secondary data is collected.

Primary Data

The primary data for the study is collected directly from target respondents through structured questionnaire.

Secondary Data

The secondary data for the study is collected from different sources such as trade journals, articles, newspapers, magazines, internet, reports related to the factors influencing online shopping behavior among college students.

FACTORS INFLUENCING ONLINE SHOPPING BEHAVIOR AMONG COLLEGE STUDENTS

- **Demographic Factors**

Gender

We can arrange sex into two classifications-male or female. Ladies in our general public have begun buying the greater part of the merchandise things and other family unit products, free of the choices of their spouses. In any case, men still settle on most acquiring choices identifying with vehicles, TVs, iceboxes, cameras and other customer durables. In this manner, who will buy, the item, influence the investigation of customer conduct.

Age

Newborn child, youngsters, Juvenile, youthful grown-ups, develops grown-ups, senior residents, and so forth. Our needs, wishes and yearnings all change with age.

Marital status

Single, connected with, wedded, isolated, dowager, and so on. Hitched individuals dependable constitute a more grounded market for homes, life coverage, buyer durables, and kids' apparel than unmarried individuals. In this way the life of dowager and her shopping propensities are distinctive, as it were, when contrasted with a normal wedded lady of a similar age. Therefore it is critical to consider the conjugal status of a shopper before concentrate his/her purchasing conduct.

Ethnic factor

Low class, while collar class, high society and so forth. Ignority bunch wherever have generally gotten less instruction, less social open doors and earned lower salaries than others. The state of such individuals are most likely changing yet at the same time the utilization example of minority gathering individuals both sort and quality of products they buy, contrast from others.

Income factor

Low, low centre, centre, upper centre, upper and so on. As individual's salary decides to an extremely incredible degree the sort and nature of items he purchases. Individuals with low salary are compelled to spend the majority of their cash for nourishment, lease, attire and different fundamentals. As they turn out to be more prosperous, they tend to buy higher quality things and purchase more unnecessary items. Obviously, individuals gaining a similar measures of cash may spend it in various routes relying on other individual components.

Education

Ignorant, essential training, secondary school instruction, school training, college instruction, proficient training, and so on investigates have demonstrated that inclinations in music, workmanship, excitement, nourishment, garments, vehicles and so on. are affected by the degree, kind and nature of one's instruction. As a rule the more taught an is, the all the more segregating a customers.

Occupation

Untalented, semiskilled, gifted, adminstratiors, proficient, agents and so on. The item inclinations of cushy labourers have a tendency to be very not quite the same as that of manual specialists, consequently the review and expectation of the conduct of a purchaser is facilitated in the event that we know precisely his occupation.

❖ **Customer's factor**

Brand Name

The brand name is colossal-and we're not simply discussing brand and value. The manner in which the brand name sounds and the pictures it summons both effect the buy choice. That is the reason thinking of good organization names is such a pivotal errand when propelling a brand or item.

Product placement

In physical retail conditions, item position is colossally significant. You're clearly going to see much better outcomes if your items is on an end top in a profoundly dealt region of the store versus concealed on the base rack in a back comer. This has nothing to do with the item itself, yet is completely identified with area.

Packaging

While some would contend bundling is an item related factor, most would concur it's a non-items factors. On the off chance that you evacuate the bundling and discard it so as to get ot the item, its not part of the item itself. All things considered, you should invest a lot of energy and exertion consummating bundling in the vent that you need to catch eye and emphatically impact buy choice.

Reputation

During a time where web based life is the best, informal showcasing is the way to advancing and keeping up a positive notoriety. 'Clients don't give much weight to dealer message any anger,' composes business master Kristin Zhivago. 'They talk legitimately to one another. What your present clients are staining about you will either enable you to sell more-or head out businesses.

Pricing

The fifth non-item factor that purchasers consider is evaluating. The test here is deciding exactly how value delicate your objective market is. In certain businesses, cost is the main non-item factors. In others, it assumes an exceptionally negligible job.

Payment options

Vary for country and urban clients. Clients in the metros are furnished with choice of money down while propel installment is required for non-metro clients or country zone clients. Clients have a dread that whether they will get the item or not if propel installment is finished.

Delivery delay

It is chiefly as a result of the coordination's issues like wither the organizations have outsourced coordination's organization that does not consider the criticalness of on-time conveyance or the online purchaser is situated in little city rustic territory.

Service delay

What is asserted is not given. For the most part there is a postponement in the administration accommodated the merchandise obtained online because of little administration group that is gathered in enormous urban areas just like metro.

High delivery charges

Free home conveyance alternative can be profited by clients dwelling in key/metro urban areas.

Table-1
Consumer preferences of online shopping

Particulars	Frequency	Percentage
Convenience	12	15
Price and Discounts	27	33.75
Variety of option	19	23.75

Ease of access	13	16.25
Technology and trend	9	11.25
Total	**80**	**100**

Source: primary data

Inference

It is inferred from above table that 15 percent of the respondents says that convenience, 33.75 percent of the respondents says for price and discounts, 23.75 percent of the respondents say for variety of option, 16.25 percent of the respondents say for Ease of access and 11.25 percent of the respondents say that technology and trend of online shopping behavior among college students.

Table-2

Factors influencing online shopping behavior among college students

Particular	Frequency	Percentage
High price	8	10
Lack to option	10	12.5
Delivery charges	13	16.25
Low quality	31	38.75
Fake products	18	22.5
Total	**80**	**100**

Inference

It is inferred from above table that 10 percent of the respondents says the High price factor influenced, 12.5 percent of the respondents say that lack of options factor influenced, 16.25 percent of the respondents says the delivery charges factor influenced, 38.75 percent of respondents says that low quality factor influenced, 22.5 percent of the respondents says that fake products of factors influencing consumer behavior among college students.

Conclusion

Based on the analysis, it was concluded that the online shopping behavior of college students is primarily influenced by factors such as convenience, affordability, and variety of choices, with technology adoption and peer recommendations playing supporting roles. The study revealed that students prioritize platforms that offer seamless user experiences, competitive pricing, and secure transactions, highlighting the importance of trust and accessibility. Additionally, social influence, particularly through reviews and social media, significantly impacts their purchasing decisions. These findings emphasize the need for online retailers to focus on personalized marketing strategies, trust-building measures, and affordability to cater effectively to the preferences of the demographic.

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SURVEY: THE EVOLUTION OF MODERN ENTREPRENEURSHIP IN SPORTS AT VIRUDHUNAGAR DISTRICT

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Abstract

Sport is an activity of a particular group of people in society. However, it has significantly evolved to become an important cultural, social and especially economic endeavor. Different types of sports have evolved into indoor sports today. For example, Cricket and Football are played in indoor Stadiums in small space. In early days Badminton was played in Indoor stadiums due to the disturbance caused by wind while playing outdoors. But in today's era we are in an era where all sports are played indoors due to lack of space and time.in the early period, all the games were played by children were played on street sides and parks in present times no child is allowed by their parents to play in street sides. The Parents of the children ready to spend money and allow them to play in fun zone, Indoor stadium, Rooftop courts, Fitness center, dance club and turf court Etc.

Key Words: Sport, People, Cultural, Cricket, Foot ball, Stadium.

Introduction

This survey is taken around virudhunagar district. In recent years, entrepreneurship in the sports industry has undergone significant transformation, with new opportunities and innovative approaches emerging across the globe. In particular, Virudhunagar District in Tamil Nadu has seen a unique evolution in this sector, where local entrepreneurs have leveraged sports as a platform to drive economic growth, foster community engagement, and build new businesses. This survey aims to explore the changing landscape of sports entrepreneurship in the region, examining how modern trends such as digitalization, sports marketing, and youth development programs are shaping the future of sports-related businesses in Virudhunagar. By capturing insights from local entrepreneurs, stakeholders, and industry experts, this study will provide a comprehensive overview of the challenges, successes, and emerging opportunities within this dynamic field.

Modern trends of Sports Facilities at Virudhunagar District

Employers are eager to start profitable businesses in small places. Especially virudhunagar is extraordinary in doing various businesses. Now days Sports Fields are the most profitable industries required less expenditure only. The sports ecosystem is changing with an increasing need for domestic excellence and international recognition. The situation in cities is also alarming as development and the depletion of the already sparse open spaces have been rapid. The rise of real estate prices and the need to make the best use of land space often push sports facilities to the background. Yet, innovative approaches such as rooftop courts and multi-purpose arenas are emerging to overcome these limitations. Developers manage to come up with ingenious designs that fit the modern city requirements by changing conventional models. There is no doubt that with the growing economy, a growing sport & fitness culture, and the increase in infrastructure in general, the growth prospects for the industry are terrific. We are seeing 50%-100% growth in the recent few years and the trend should continue.

Facilities available at Virudhunagar District

Sl. No.	Facility	Count
1	Badminton Indoor Stadium	25
2	Fitness Training Centre	37
3	Dance clubs	13
4	Turf court	9
5	Children fun zone	11
6	Recreation club	3
7	Silambam Training center	24
8	Swimming pool	7
9	Yoga center	6

Advantages of modern infrastructure Development in Virudhunagar District

The sports infrastructure development in Virudhunagar District is also expected to create jobs in construction, maintenance, and management of sports facilities. Major sports events in Virudhunagar District can increase local tourism by up to 20%, generating in revenue. Infrastructure projects for modern facilities to create jobs both during and after construction. Infrastructure projects promote community development by providing safe spaces for physical activity and social interaction. A study by the National Recreation and Park Association found that communities with high-quality parks and recreation facilities see a 25% increase in physical activity among residents. These benefits contribute to the overall well-being of the community and can reduce healthcare costs by promoting physical fitness and mental health. Investing in modern infrastructure is a long-term investment in youth development. Quality training facilities and academies provide young players with the resources and opportunities they need to hone their skills and reach their potential. This investment can lead to the emergence of elite players who achieve national and international success, bringing pride and recognition to their communities.

Disadvantages of modern infrastructure Development in Virudhunagar District

Ensuring the safety of athletes and participants is a top priority in sports facility management. Many sports require the use of specialist surfaces to help minimize injury and improve the quality of the sport or activity. If activities are performed on inappropriate surfaces, additional risk of injury may occur. For example, exercise studios usually have a spring floor to help minimize the shock from high impact activities. Too much impact work on a hard floor can cause soft tissue injuries. Outdoor sports facilities are subject to seasonal changes and weather conditions, presenting unique maintenance challenges. These can include managing drainage systems, addressing turf issues caused by extreme heat or cold, and preparing fields for different sports seasons. Sports facilities also need to maintain their aesthetic appeal to provide a positive experience for participants and spectators. This includes regular cleaning, landscaping, painting, and other cosmetic maintenance tasks to create an inviting and visually appealing environment.

Conclusion

The evolution of modern entrepreneurship in sports within Virudhunagar District has revealed a dynamic and promising landscape, driven by a blend of traditional sports culture and innovative entrepreneurial approaches. The survey has underscored several key factors contributing to this transformation, such as the growing awareness of sports as a viable business opportunity, increased access to digital platforms, and the rising interest in sports marketing and media.

Entrepreneurs in the region are increasingly tapping into emerging trends like sports academies, fitness centers, sports tourism, and event management, providing a broad spectrum of services that contribute to both local and regional economies. By focusing on the development of young athletes, leveraging technology for training and promotion, and creating localized sports events, these entrepreneurs are not only enhancing the sports culture in Virudhunagar but also setting new standards for the future of sports-related businesses.

Despite these positive developments, there remain challenges that need to be addressed. Limited access to funding, a lack of robust infrastructure, and the need for greater governmental and institutional support are recurring concerns among entrepreneurs. Moreover, there is an evident gap in the formalization of sports-related ventures, with many businesses operating on a smaller scale or relying on informal networks.

However, the future holds great promise. As awareness grows and more stakeholders—from government bodies to private investors—recognize the potential of sports entrepreneurship in Virudhunagar, there is a strong foundation for a more structured and sustainable sports industry. Investment in sports infrastructure, skill development programs, and strategic partnerships could pave the way for the region to become a hub for sports innovation and entrepreneurship.

In conclusion, the evolution of sports entrepreneurship in Virudhunagar is a testament to the power of vision and innovation. With the right resources, support, and continued momentum, this district has the potential to lead the way in modern sports entrepreneurship, setting an example for other regions to follow. This survey provides a critical insight into both the challenges and opportunities, offering a roadmap for future developments that will ensure the continued growth and success of the sports industry in the region.

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THE IMPACT OF RURAL DEVELOPMENT AND TECHNOLOGICAL INNOVATION IMPLEMENTED IN MGNREGA SCHEME IN VIRUDHUNAGAR DISTRICT

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Abstract

The Access to MGNREGA scheme for those belonging to poor and social cohesion for technological adopted for single digital system. In which become an integral part of our efforts to promote inclusive growth. In fact the digital payment can be adopted through pay Dash, E- content and disburse, digital attendance, National mobile monitoring system (NMMS), ABPS to use weapon to exclude single layer direct benefit transfer to underpins India's response social protections strategy. It is utilized by tens of millions of poor rural households each year, and provides up to 100 days per year of paid manual Labour on demand. This guidelines programme of government of India, the right to work and dignity of Labour and rational participatory relationship with the state. It was revolutionary in its promise of inclusive growth lack a comprehensive measure that can be used to measure the extent of across economies. This paper attempts to fill this gap by proposing an index a multi-dimensional index that captures information on various dimensional index that captures information on various dimensional of inclusions in one single digit lying indicates and economy. This paper also attempts to Analysis various methods of digital wage payment systems of MGNREGA scheme.

Key words: digital payment, digital attendance, National mobile monitoring system

INTRODUCTION:

In order to make rural development more broad based and balanced, major areas of concern have to be addressed. Rural investment, technology and appropriate rural institutions are needed for rural development. In the new economic view of development considers reduction or elimination of poverty, inequality and unemployment as an important index of development. To accelerate the reduction of poverty and increase in employment a number of poverty alleviation, employment generation and basic services programmes are being implemented. Alleviation of poverty remains a major challenge before the nation. Acceleration of economic growth which is employment intensive facilitates the reduction of poverty in the long run.

There was no guarantee that employment would be available to rural households on demand. By taking into account, the experience gained under the past wage employment generating scheme. It was decided to launch a programme to secure wage employment for the households in the rural areas. For improving the living standards of low income population residing in rural areas and making the process of their development self– sustaining, the Indian citizens are guaranteed employment by the government. As an demand driven programme MGNREGA was passed by the government of India on August 5, 2005.

The launched in 2005 by the ministry of Rural development, MGNREGA stands as one of the world's largest work guarantee programs. This initiative provides a legal guarantee, ensuring a hundred days of employment each financial year for adult members of any rural household.

Once Aadhaar is updated in the scheme database, beneficiary need not update account numbers due to change in location or change in bank account number. Money will be transferred to the account number. It has been brought to the notice of the central government that in many cases due to frequent changes in Bank account Number by the beneficiary and non-updating of the new account by the beneficiary on time, several transactions of wage payment are being rejected bank branch.

STATEMENT OF THE PROBLEM:

The most of the MGNREGA scheme that enables to Poverty and unemployment are two acute problems common to most of the countries. India is not an exception in this regard. Attainment of higher economic growth is not possible without efforts at employment generation and income augmentation. This research will also analyses and critically evaluate the effectiveness of the MGNREGS in securing guarantee of rural employment, eradicating rural poverty, providing rural assets and the impact of the Scheme on rural development.

SCOPE OF STUDY

The study is mainly planned to analyse the impact of Mahatma Gandhi National Rural Employment Guarantee Scheme on rural development in Virudhunagar District. The impact of the study is evaluated in terms of technological innovations, digital dash, employment and income generation, creation of social capitals, assets durability, distressed rural urban migration, savings and investment potentials, expenditure pattern of workers, consumption level, women contribution, household participation, women empowerment, household empowerment, overall performance of the scheme and impact at their village level.

REVIEW OF LITERACTURE

Turangi (2022) assesses the first 15 years of implementation of MGNREGA Scheme with the collected data from the official website of MGNREGA. The study uses a composite index to measure the performance of the scheme across the states. To compute the index, 7 variables are taken, namely, household consumption, women participation, average employment, 100 days completed households, received wage rate, funds utilization and work competition and evaluate performance.

CURRENT STATUS OF MGNREGA:

- The continuous Aadhaar seeding (linking an Aadhaar number to a primary bank account number) for de-duplication and authentication of genuine beneficiary.
- Aadhaar seeding of 14.08 crore (98.31%) active workers have already been completed. Against these seeded Aadhaar, a total 13.76 crore Aadhaar have been authenticated and 87.52% active workers are now eligible for Aadhaar payment Bridge system.
- APBS is a payment system that uses Aadhaar numbers to electronically send government subsidies and benefits to the Aadhaar – linked bank accounts of beneficiaries.

Gram panchayats facing technological or Aadhaar related problems may seek exemptions from APBS on a case - by – case basis until the resolution of the issues.

National payments corporations of India (NPCI): Data indicates a success rate of 99.55% or above when Aadhaar is enabled for DBT. Payment for beneficiaries who turn up for wage employment to be made through APBS.

- The recent concerns stating that 34.8% of total registered workers and 12.7% of active workers are still ineligible for ABPS have no relevance.
- Because APBS is applicable only in case a registered beneficiary turns up for wage employment.

National Electronic Fund Management system (NEFMS) :

- National Mobile Monitoring system (NMMS) app captures real – time attendance of beneficiaries at worksites.
- Beneficiaries and citizens can verify worker attendance, enhancing transparency.

Real – time Monitoring through NMMS:

National Mobile Monitoring system:

The mobile system has to monitor the app captures real –time attendance of beneficiaries at worksites they are provides the fundamental operations we should maintained transparency.

Geotaggingssss of Assets:

- Utilizes remote sensing technology for retagging assets created under the scheme.
- Remote sensing is the process of detecting and monitoring the physical characteristics of an area by measuring its reflected and emitted radiation at distance aircraft.
- Ensures public scrutiny and accountability by providing location specific information.
- A job card can be deleted in case it is a fake job card (incorrect job card) single person in job card and that person is expired.
- Since April 2022 about 2.85 crore job cards have been deleted.

Drone Monitoring:

- Pilot testing of drone usage is conducted for monitoring and implementation, enhancing real – time monitoring and data collection for improved decision – making.

Digitals wallets form of MGNREGA scheme:

The new notification mandates workers to link their Aadhar with their MGNREGA job cards, with enhancing the digital payment system, the non compliance will be met with penalties. This move was met with pushback from workers and statements of concerns by local leaders and financial year. The probabilities of failure at any point of this transaction is high seeding targets, unique identification authority of India, and audit mechanisms for workers and statements formulate of concern by local leaders. In case of MGNREGA scheme adopt digital attendance can be given reduces to and ratification of errors and frauds to mine get records of fulfillment of worker and local leaders.

Worker surveillance:

Workers monitoring mechanisms under MGNREGA, which include physical inspections, geo-tagging of sites, ombudsmen audits and feedback and grievance redress mechanisms, data collected by drones may be used by the ombudsmen for enquring into complaints against the work/asset. Facial recognition based authentication is also a high inaccurate tool and is more likely to inaccurately identify on the basis of gender, age and complexion, yielding low accuracy rates for a diverse Indian cultural landscape. The recognition may be potentially fatal to the scheme and lead to more and more workers falling through the cracks.

No place for technology:

The Act and supplementing schemes are founded in public advocacy and civil society efforts and demands were made loud and clear for rural employment opportunities to be provided by the union, along with complete transparency and assurance of wage payments. The legislation is a community – led charter of worker's rights and entitlements with strong basis in equitable social security.

Provision under MGNREGA and the Level of Awareness of Respondents

To measure the level of awareness of the respondents about the provisions under the scheme, the researcher has choosen certain basic provisions mentioned under the act. The opinion of the respondents is gathered in two point scale namely aware and not aware.

Level of Awareness about the Provisions under MGNREGS

Sl. No.	Provisions under MGNREGS	Aware	Not Aware	Total

1.	Know about the registration of Family Members under MGNREGS	112 (20.44%)	436 (79.56%)	548 (100.00%)
2.	Aware of the Minimum Wages Fixed by the Government under the Scheme	239 (43.61%)	309 (56.39%)	548 (100.00%)
3.	Know about the Minimum Number of Days of Employment under MGNREGS	510 (93.07%)	38 (6.93%)	548 (100.00%)
4.	Knowaboutthat33%Jobs of MGNREGS Are for Women Workers	96 (17.52%)	452 (82.48%)	548 (100.00%)
5.	Know about the Permissible Works under MGNREGS	7 (1.28%)	541 (98.72%)	548 (100.00%)
6.	Know about the Provisions Relating to MGNREGS worksite Facilities	4 (0.73%)	544 (99.27%)	548 (100.00%)
7.	Know about the Unemployment Allowance provided under MGNREGS	3 (0.55%)	545 (99.45%)	548 (100.00%)
8.	Aware of Financial Aid Regarding the Accidents at the Work Place	281 (51.28%)	267 (48.72%)	548 (100.00%)
9.	Know about the Compensation for Disability and Death.	73 (13.32%)	475 (86.68%)	548 (100.00%)

Source : Primary Data.

The table shows majority of the respondent's state that they are not aware of the provisions under the scheme except the minimum wages, minimum number of days and financial aid provided under the scheme. In order to analyse the opinion of the beneficiaries about the awareness of the provisions of MGNREGA scheme the sign test has been used.

Job Card Registration Held throughout the Year

As per the guidelines provided under the scheme, the registration is to be made throughout the year by the Grama Panchayat.

Opinion about Job Card Registration

Sl.No.	Particulars	No. of Respondents	Percentage to Total
1.	Ongoing	327	59.67
2.	Not ongoing No idea	7	1.28
3.	Total	214	39.05
		548	100.00

Source: Primary Data.

Table shows that exhibit that 59.67 per cent of the respondents have stated that the job card registration is an on-going process throughout the year, 39.05percent them have stated that they have no idea about the registration and1.28percent of them reported that the registration is not done throughout the year. It is known from the Table 4.15 that a majority of the respondents have stated that the job card registration is an on-going process.

Conclusion

MGNREGA Scheme is distinctive for its unique vision to redefine avenues for providing employment opportunities to the deprived in rural India. Whether the possibility and efficient changes of employment largely comes with the better level of awareness as it marks the level of accessibility. Further an analysis has also been made to know the digital monitoring system to empower generate under the scheme. Hence the technological innovations and usage for MGNREGA scheme to move the multiple purpose of the merger acquisitions and operational functional distinct and usage the mode of digital payment and dash for e-paper through developmental efficient work through time allotment and promotional activities. Through a comprehensive analysis of various studies, the review offers a holistic understanding game – changing piece of legistration that provides subsistence, as well as a viable source of employment in times of need and in a jobless but rapidly expanding economy.

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MOBIMOUSE: REMOTE DESKTOP CURSOR CONTROL VIA MOBILE DEVICE

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Abstract

In today's increasingly connected digital economy, the ability to remotely control interactions between computers has become important. This study introduces MobiMouse, a mobile application that enables smooth desktop cursor handling on smartphones using React Native and Expo. MobiMouse uses state-of-the-art touch interaction technology with local network connectivity to give users a low-latency, user-friendly alternative for remote cursor control in many kinds of computer situations.The application addresses the rising need for flexible, touch-based input methods by transforming mobile devices into sophisticated pointing devices. MobiMouse's real-time coordinate transmission, network discovery methods, and smart gesture detection help to close the gap between desktop and mobile interfaces.

Keyword*— Gesture Recognition, Network Communication, User Experience Design, Mobile Interfaces*

Introduction

"The study of designing interactive computer systems that focus on user experience and ease of use" is the definition of human-computer interaction (HCI) [2]. As digital technologies advance and change the ways individuals interact with technology, this basic concept is becoming more and more important.

Input technologies are changing greatly in the digital world, with interactive, touch-driven, and mobile-centric interaction styles replacing more conventional mouse and keyboard need. With their sensors and user-friendly touch interfaces, smartphones provide a new chance to reinvent desktop controls. According to Shah and Tilevich (2011), "As mobile devices are rapidly replacing desktop computers for a growing number of users, existing user interfaces often need to be adapted to accommodate the unique characteristics of these devices" *[2]*. New input techniques like virtual keyboards and gesture-based controls have emerged because of this change. The use of mobile devices as alternatives to traditional input devices is examined in a study by Lorenz et al. (2009), for example, which highlights that "the advantages of these devices are that most users are familiar with them and that they provide means for text input and controlling a cursor" (p. 1) *[15]*. This technological connection gives lead to MobiMouse, which offers a smooth transition between desktop and mobile environments.

Technological Evolution of Input Methods

In recent times, the world of technology has seen a huge change in mobile technologies. Traditional mouse and keyboard UI are gradually being replaced by evolving, touch-driven, and mobile-centric interface models. Smartphones' advanced sensors and intuitive touch interfaces present a new chance to remake desktop control systems *[1]*. MobiMouse, which provides an easy switch between desktop and mobile settings, is the result of this development.

User Experience and Interaction Paradigms

The need for rapid, flexible, and intuitive interaction mechanisms is growing among modern users. Device borders are blurring, which makes cross-platform, multi-modal interfaces necessary. Innovative apps meet the contemporary paradigm of fluid and interconnected user experiences by utilizing cutting-edge touch interaction and real-time communication technologies to enable seamless integration across various computing contexts *[1]*.

Network Communication Challenges

Strong, low-latency network connectivity is essential for controlling remote devices effectively. High transmission delays, intricate pairing procedures, and restricted gesture interpretations are common problems with traditional methods. MobiMouse uses cutting-edge HTTP and WebSocket technology to develop a real-time, responsive communication system. The program maximizes user responsiveness and reduces interaction latency by utilizing efficient data transmission and local network discovery.

Mobile-Desktop Interface Design

Sophisticated touch gesture translation is necessary to create an intuitive desktop-to-mobile interface. The main goal of MobiMouse's architecture is to translate complex touch inputs into accurate cursor motions. The application's motion detection algorithm converts multi-touch inputs, pressure changes, and movement patterns into real desktop cursor commands.

Gesture Complexity and Precision

There is lots more to the MobiMouse than a simple point-and-click interface. Through the conversion of slight touch gestures into accurate coordinates, the program allows users to precisely position their cursor on the desktop, making it easier to interact with the screen.

- *Multi-touch gesture recognition:* This feature improves the application's intuitive user experience by enabling sophisticated movements like pinch-to-zoom and simultaneous clicks.
- *Contextual click interpretations*: MobiMouse automatically interprets clicks based on user context, distinguishing either single taps for left-clicks and double tapping for right-clicks or drag actions, opening several types of interaction possibilities.
- *Dynamic movement scaling:* This feature allows for both quick screen motions and fine control for minor modifications by adjusting the cursor sensitivity according to gesture speed and distance.

Latency and Responsiveness Considerations

Reduced interaction delay is a necessary for smooth experience for users. The study makes use of complex codes to:

- Optimize network transmission: Algorithms are used to reduce latency and ensure that commands are sent fast and efficiently by streamlining data transfer between the desktop and mobile device.
- Predict and interpolate cursor movements: By anticipating user actions using predictive algorithms, the system minimizes perceived lag by enabling smoother cursor movements by interpolating positions between the current and expected locations.
- Offer real-time feedback: MobiMouse gives customers instant visual feedback when they input data, guaranteeing that actions are verified right away. This improves user trust and the entire interaction experience.

Cross-Platform Development Strategy

The following are guaranteed by a new development approach supported by making use of React Native and Expo:

- Consistent performance for Android and iOS: MobiMouse uses React Native to provide a same user experience on both iOS and Android devices, minimizing platform-specific changes and making sure that features work smoothly on both platforms.
- Simplified deployment processes: By reducing the set up process, Expo helps developers build and distribute apps faster. This makes easier to manage different libraries for different platforms.
- Access to native device capabilities: React Native gives MobiMouse the full range of mobile device features for better user engagement thanks to React Native, which provides access to native device features like touch sensors, GPS, and cameras.

Literature Review

In human-computer interaction (HCI), the development of input techniques has fundamentally changed how people interact with technology. Mobile devices that provide touch-based interactions are gradually replacing or supplementing traditional input devices like keyboards and mouse. The study looks at the main issues and results related mobile input methods, gesture detection, network connectivity, and the interaction of mobile devices with desktop applications to give a foundation for the MobiMouse project.

Gesture Recognition Technologies

In its ability to provide simple interactions through motions, gesture recognition has become an important area of study in HCI. Studies by Wobbrock et al. (2009) and Karam et al. (2013) show the benefits of gesture-based controls for a different number of applications, including productivity tools and gaming. These experiments show how important it is to accurately detect user movements just to provide a simple experience. Applications like MobiMouse, which try to turn complex touch interactions into accurate cursor motions, depend on the development of algorithms that can recognize gestures and multi-touch inputs [3][4].

Network Communication in Remote Control Systems

Applications requiring remote control requires strong communication between desktop PCs and mobile devices. The issues with low-latency communication in networks are covered by Zhang et al. (2015), particularly when real-time interactions happen. To increase responsiveness and reduce latency in two-way communication, the authors recommend using WebSocket technology. The researchers suggest using WebSocket technology to improve responsiveness and lower latency in two-way communication. This is consistent with the real-time interaction approach of the MobiMouse project, which uses WebSocket to make sure that user inputs pass along correctly and quickly *[5]*.

Mobile-Desktop Integration

Many studies have been done on the integration of desktop settings with mobile devices. Hwang et al. (2016), for example, study into the possibility of using smartphones as remote controls for desktop applications. According to the report, mobile devices can easily develop desktop capabilities, allow users to use their computers in many kinds of ways. It advances the objective of the MobiMouse project, which is to turn smartphones into pointing devices that improve user experience and easiness *[6]*.

Usability and User Experience

Usability is important for the success of any interactive technology. According to research by Norman (2013) and Nielsen (1993), it is important to design user-friendly interfaces that consider the preferences and desires of users. The MobiMouse project allows the application is user-friendly and meets the needs of those who use it by putting user-centered design principles into practice. Enhancing the application's features and user interface requires iterative testing and user input *[7][8]*.

Ethical Considerations in HCI

As technology develops, the importance of ethical considerations in HCI increases. According to Shadbolt et al. (2016), ethical considerations are needed for the development and implementation of interactive systems, especially those that involve user information and privacy. The MobiMouse project keeps to ethical design principles by safeguarding user privacy and obtaining informed consent before testing *[9]*.

Methodology

Using a multiple methods study approach, the MobiMouse project develops a fresh mobile-to-desktop cursor control technology. To increase efficiency, reliability, and integration, the project moved its mouse control functionality from RobotJS to the Win32 API. It creates an easy way for cross-device interaction by mixing new technology, and user-centered design principles.

Conceptual Framework

The primary approach of the study focuses on understanding how human-computer interaction is changing. The study investigates how cellphones might be developed into intelligent, gesture-responsive pointing devices by acknowledging the shortcomings of conventional input techniques. The conceptual framework places a strong emphasis on removing obstacles to device engagement and developing a smooth, user-friendly control system.

Technological Design Approach

The technology approach makes use of a multi-tiered design approach. The cross-platform development environment offered by React Native and Expo allows for uniform performance across mobile ecosystems. With separate modules for network discovery, gesture detection, and mouse control, the architectural design places a high priority on the creation of modular components.

Transition to Win32 API

The following factors led to the decision to go from RobotJS to the Win32 API:

- Improved Performance: Direct access to system-level operations is provided by the Win32 API, enabling more effective mouse control and lower latency.
- Improved Compatibility: The program can function consistently in a variety of Windows contexts by leveraging the Win32 API.
- Better Control: More precise control over mouse events is made possible via the Win32 API, allowing for more complex input handling.

Network Communication Methodology

Creating a reliable network communication protocol is a crucial part of the process. The study employs a hybrid communication strategy that uses HTTP for routine queries and WebSocket for real-time interactions. Using a clever subnet exploration technique, the network discovery mechanism methodically searches local network environments to find possible target devices.

Gesture Recognition Implementation

The goal of the gesture recognition technique is to convert intricate touch interactions into accurate cursor motions. The system interprets subtle user gestures by using React Native's PanResponder to enable sophisticated touch event handling. Creating sensitivity algorithms that translate touch gestures to cursor locations while preserving responsiveness and reducing latency is part of the strategy.

Architecture Diagram

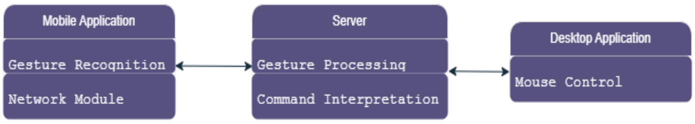

Figure 1 Architecture of the application

The MobiMouse architecture *[Fig 1]* is an advanced three-layered system that enables smooth cursor control from mobile to desktop. It is made up of three layers for mobile apps, desktop apps, and server that work together to translate touch gestures into correct cursor motions and location.

Mobile Application Layer: With its gesture recognition features that can record and take complex touch inputs, the mobile application is the main user interface. It also handles network connections by sending data in real time using WebSocket protocols.

Server Layer: The server is important as it handles incoming gesture motion using algorithms, converts touch inputs from mobile devices into computer systems cursor commands, and it uses optimization techniques to lower latency and good cross-platform compatibility.

Desktop Application Layer: By using Win32 API mouse control modules to control the cursor's location, the desktop component let system-level integration that enables fast and quick cursor motions started from the mobile device.

Communication Dynamics: WebSocket technology ensures real-time responsiveness and secure, continuous engagement between mobile and desktop environments. Bidirectional, encrypted, and low-latency data exchanges are characteristics of communication between layers.

Iterative Development Approach

The project follows an agile, iterative development methodology. Each development cycle involves:

- Requirement analysis
- Prototype development
- User testing
- Feedback integration
- Refinement of implementation

Ethical and Accessibility Considerations

Integrating ethical design principles, protecting user privacy, getting informed consent for testing, and creating an inclusive interface that considers a range of user demands, and technology capabilities are all part of the study technique.

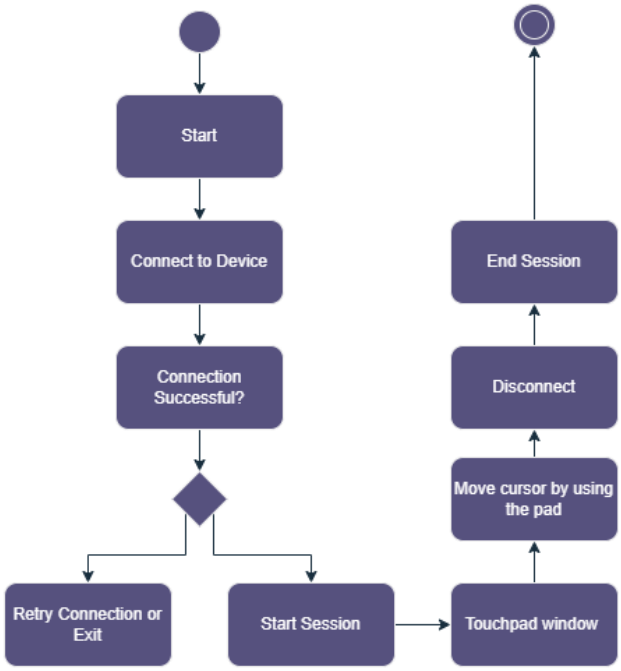

Figure 2 Flowchart of the application

- User Interface Design: The procedure for attaching a device to a system and controlling it using a touchpad is shown in the flowchart *[Fig 2]*.
- Software Development: The flowchart describes the procedures for connecting to the device, starting a session, and navigating using a touchpad.
- Testing and Validation: To guarantee smooth functioning between the device and the touchpad interface, the flowchart *[Fig 2]* offers a framework for testing the connection and interaction process.

Empirical Validation Strategy

The research process includes stringent testing procedures in several areas:

- Performance testing: assessing cursor responsiveness and network latency, especially following Win32 API integration.

- Usability Evaluation: To get input on the new control techniques, user experience evaluations are carried out.
- Cross-Device Compatibility: Checking for functionality on various Windows versions and device setups.
- Error Handling: Putting in place thorough error detection and recovery procedures for server and mobile application interactions.

Technical Architecture Methodology

The technical approach uses a tiered structure:

- React Native mobile interface serves as the presentation layer.
- WebSocket and HTTP are the communication protocols used at the communication layer.
- Control Layer: Node.js and the Win32 API are used to implement mouse control on the server side.
- Platform Abstraction Layer: Changing the cursor using platform-specific APIs.

User Interface (UI)

The application's user interface (UI) was created with simplicity and usability in mind. A list of available devices is shown on the main screen, making it simple for users to connect to the device of their choice. Additionally, the user interface clearly displays the user's connection status.

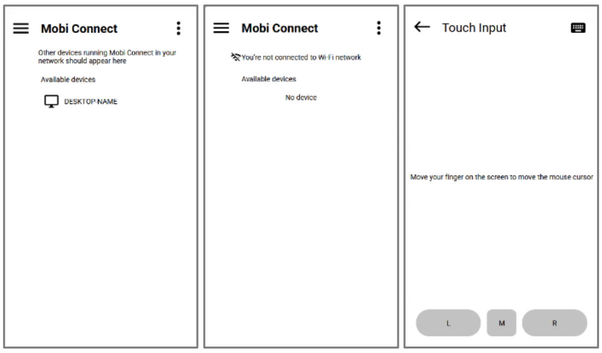

Figure 3 User-Interface

- A device called "DESKTOP-NAME" is connected to the "Mobi Connect" app interface, which is displayed in the first image *[Fig 3]*.
- The identical app is displayed in the second image *[Fig 3]*, but a notice stating that the user is not connected to a Wi-Fi network and that no devices are available is displayed.
- The third image [Fig 3] displays the application's "Touch Input" panel, where the user can move the mouse cursor by placing a finger on the screen. Additionally, there are buttons with the letters "L," "M," and "R" that may represent the left, center, and right click functions, respectively

Results

MobiMouse's research technique uses an experimental hybrid approach, combining both quantitative and qualitative studies to examine mobile-desktop interaction using user-centered design concepts. React Native acts as a foundation of the technology stack for creating cross-platform mobile applications, TypeScript enhances code dependability through robust typing, and Expo facilitates fast deployment.

React Native's Gesture Recognition Module: An essential part of the system that records user interactions and converts them into cursor movements is the gesture recognition system. The program uses the PanResponder API to handle touch gestures, as shown in the following code snippet:

```
const panResponder =
PanResponder.create({
onPanResponderGrant: async (evt) => {
// Initial touch interaction
const currentTime = Date.now();
handleInitialTouch(currentTime);
},
onPanResponderMove: async (evt,
gestureState) => {
// Calculate cursor movement
const { x, y } =
calculateMousePosition(gestureState);
await sendMouseMovement(x, y);
},
onPanResponderRelease: async (evt) => {
```

Using WebSocket technology for real-time, low-latency communication—a crucial element for responsive remote-control applications—Node.js functions as the server-side runtime on the backend. Studies demonstrate how effective WebSocket is at facilitating two-way communication between clients and servers while drastically cutting down on latency during exchanges *[12]*. For more efficient development, the system incorporates Express.js as the web application framework. Furthermore, Win32 and other APIs support low-level interfaces with the Windows operating system, allowing for direct and effective control using native Node.js modules *[7]*.

Network Discovery Module: WebSocket facilitates efficient network connectivity for real-time data transmission, while local network discovery allows for automatic device recognition and HTTP/HTTPS acts as a fallback strategy. The following code example demonstrates how the program searches local networks for devices that are available:

```
const scanNetwork = async () => {
    setIsScanning(true);
    try {
        // Validate network connection
        await validateWiFiConnection();
        // Get network subnet
        const subnet = extractSubnet();
        // Parallel network scanning
        const discoveredDevices = await
performNetworkScan(subnet);
        setDevices(discoveredDevices);
```

One of MobiMouse's primary features is gesture detection, which makes use of machine learning algorithms for gesture interpretation, touch event tracking for precise input handling, and predictive movement conversion to enhance user experience. While Chrome DevTools, React Native Debugger, and network monitoring tools are used for monitoring, performance measuring tools are used to analyze latency, gesture recognition accuracy, and network responsiveness.

Server-side mouse control using Node.js: The server becomes a necessary translation engine by processing incoming gesture data using intelligent algorithms. The following example of code demonstrates how the server listens to mouse control commands*:*

```
const moveMouse = withRetry(async (x, y) => {
  const result = user32.SetCursorPos(Math.floor(x),
Math.floor(y));
  if (!result) throw new Error('Failed to move cursor');
});
const mouseClick = withRetry(async (button = 'left') => {
  if (button === 'left') {
    user32.mouse_event(MOUSEEVENTF_LEFTDOWN,
0, 0, 0, 0);
    await new Promise(resolve => setTimeout(resolve,
50));
    user32.mouse_event(MOUSEEVENTF_LEFTUP, 0, 0,
0, 0);
  } else if (button === 'right') {
```

The development environment is improved by tools like as Git/GitHub for version management, Visual Studio Code for coding, and ESLint and Prettier for code formatting and quality assurance. Testing frameworks like Jest and React Native Testing Library offer stable unit and integration testing, while Postman is utilized for network simulation tools for measuring performance and API testing. Aleydon (2023) states that "this template is configured with TypeScript, ESLint, Prettier, Husky (pre-commit), Jest, testing-library, nativewind, and more" *[15]*.

Strong systems, such as secure WebSocket protocols (WSS), authentication tokens, and end-to-end encryption, are needed to protect user information in remote interaction systems. Furthermore, network firewall traversal techniques are needed to maintain safe communications in different situations. Frameworks like React Native, which offer abstraction layers and platform-specific features in addition to responsive design principles for handling many kinds of devices, which can help get cross-platform compatibility, which is necessary for a good and smooth user experience *[11]*.

Conclusion

This project highlights MobiMouse's potential to make human-computer interaction more accessible by utilizing smartphones as input devices. The application can provide stutter-free, accurate, and user-friendly cursor control by linking desktop and mobile interfaces through its integration of touch gesture recognition and low-latency network connection.

On top of using React Native for cross-platform interoperability, the application can provide a sub-100 millisecond cursor response time and dynamically interpret touch gestures. Additionally, a user-focused approach and the use of user-friendly design principles emphasize usability, privacy, and accessibility.

In addition to laying a groundwork for mobile-desktop interaction, MobiMouse also establishes a framework for further study and advancement in this field. The study highlights how mobile technology can transform conventional means of digital interaction, opening possibilities for a more connection and flexible computational future. However, there is a need for additional advancements in recognition of gestures and platform-specific optimization.

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IMPACT OF ASANA AND PRANAYAMA ON SELECTED PHYSIOLOGICAL VARIABLES AMONG COLLEGE STUDENTS

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Abstract

The purpose of the study was to find out the impact of asana and pranayama practices on selected physiological variables among college men students. To achieve the purpose of the study, 30 college men students were selected from Bharathidasan University, Tiruchirappalli. The age of the subjects were ranged between 21-25 years. The subjects were equally divided into three groups namely two experimental and one control group. The treatments to the experimental groups were assigned randomly one for Asanas and another for Pranayama and the third group served as control group. The treatment schedule was prepared for twelve weeks. The experimental treatments were employed for 60 minutes a day in five days a week for twelve weeks duration. Pre and post-test data of all the subjects from three groups were collected before and after the experimental treatment period of 12 weeks. The selected variables were Heart Rate and Vital capacity. The data was analyzed by employing analysis of covariance (ANCOVA) at the 0.05 level of significance. The result of the study indicates that practice of both Asanas and Pranayama had significant effect on Heart Rate and Vital capacity of the subjects.

Keywords: asana, pranayama, heart rate, vital capacity and ANCOVA

INTRODUCTION

Yoga is the best and oldest Art of being and the Science of becoming, time tested for more than 5000 years ago, the Rishis and Siddhas of India turned their mind inwards and discovered their true nature. This resulted in the development of a holistic system called the **YOGA.** In recent decades, several medical and scientific studies on yoga proved it to be very useful in the treatment of some diseases. Yoga is the art and science of living and is concerned with the evolution of mind and body. It is a form of complete education that can be used on all because it develops physical stamina, emotional stability, and intellectual and creative talents. It is a unified system for developing a total and balanced personality.

Pranayama is an essential and esoteric aspect of yoga that deals with the manipulation of "prana", or vital life energy, through the regulation of breath with the help of breathing exercises. The general impression is that pranayama is a physical practice of breath control. It may appear to be such, but in reality all such exercises have been devised to influence the nervous system and the panic body or psychic energy within all of us. Therefore, the control of this psychic energy is a major concern to the practitioner of yoga as a therapy to restore health and as an ideal means of preparation for meditation. Since, it is the most direct method to adjust the flow of energy in the body and a very powerful tool to do so, practitioners should exercise caution before they embark on the pranayama journey. People with any physical imbalance or those who are aged or suffer from coronary ailments should attempt this only under expert guidance. Asanas can run into several hundred in number, though about one hundred are perhaps better known today. **Sharma, Dr.P.D.(2011).**

METHODOLOGY

The purpose of the study was to find out the effect of asana and pranayama practices on selected physical and physiological variables of college men students. To achieve the purpose of the study, 30 college men students were selected from Bharathidasan University, Tiruchirapalli. The age of the subjects were ranged between 21-25 years. Heart rate and vital capacity are taken as a physiological variable for the study. The standardised tests are used to test the dependable variables namely digital monitor for heart rate and wet spirometer used to test vital capacity. The treatment schedule was prepared for twelve weeks. The experimental treatments were employed for 60 minutes a day in five days a week for twelve weeks duration. Pre and post-test data of all the subjects from three groups were collected before and after the experimental treatment period of 12 weeks. The standardised tests are used to test the dependable variables namely digital monitor for heart rate and wet spirometer used to test vital capacity. The data was analyzed by employing analysis of covariance (ANCOVA) at the 0.05 level of significance. 'F' ratio for adjusted post-test was found to be significant, the Scheffe's post hoc test was used find out the paired mean differences.

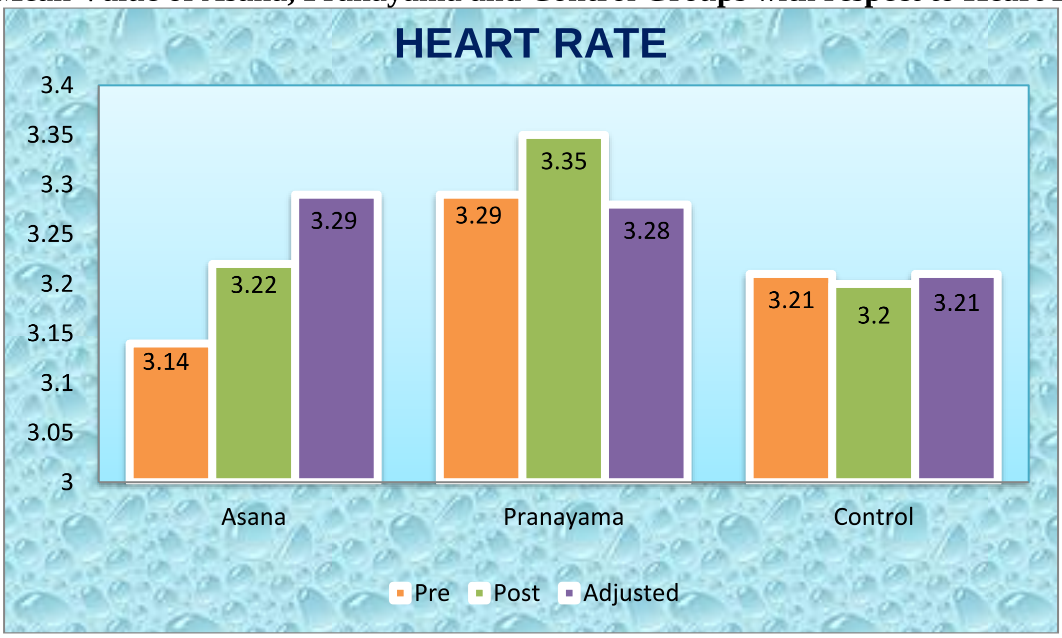
STATISTICAL INTERPRETATIONS AND RESULTS

Table I: Analysis of Covariance for Heart Rate

	Asana	Pranayama	Control	S.V	df	SS	Mss	F
Pre	163	155.43	159.7	Between	2	201.81	100.90	2.93
				Within	28	867.12	48.17	
Post	159.14	152.29	159.1	Between	2	219.43	109.71	1.65
				Within	28	1197.12	66.50	
Adjusted	155.03	154.78	158.8	Between	2	47.46	23.73	**5.22***
				Within	27	77.23	4.54	

*F (2,17) =3.59 F (2,18) = 3.55 *Significant at 0.05 levels*

Fig 1: Mean Value of Asana, Pranayama and Control Groups with respect to Heart Rate



The table-1 of analysis of covariance for heart rate of asana and pranayama and control group indicated in significant F-ratio of 2.93 and 1.65 for the initial and final test of means respectively. However, the F-ratio for the adjusted final test mean reveal a value of 5.22 which was significant as it was greater than the F-value of 3.59 required for significant at 0.05 levels. This indicates that there was significant difference from the adjusted post test means of Asana, Pranayama and control groups in the Heart rate.

Table-2: Scheffe's post hoc tests mean differences on Heart Rate

Mean			Mean Difference	Confidence interval value
Asana	Pranayama	Control		
155.03	154.78		0.25	**3.05**
155.03		158.8	**3.77***	
	154.78	158.8	**4.02***	

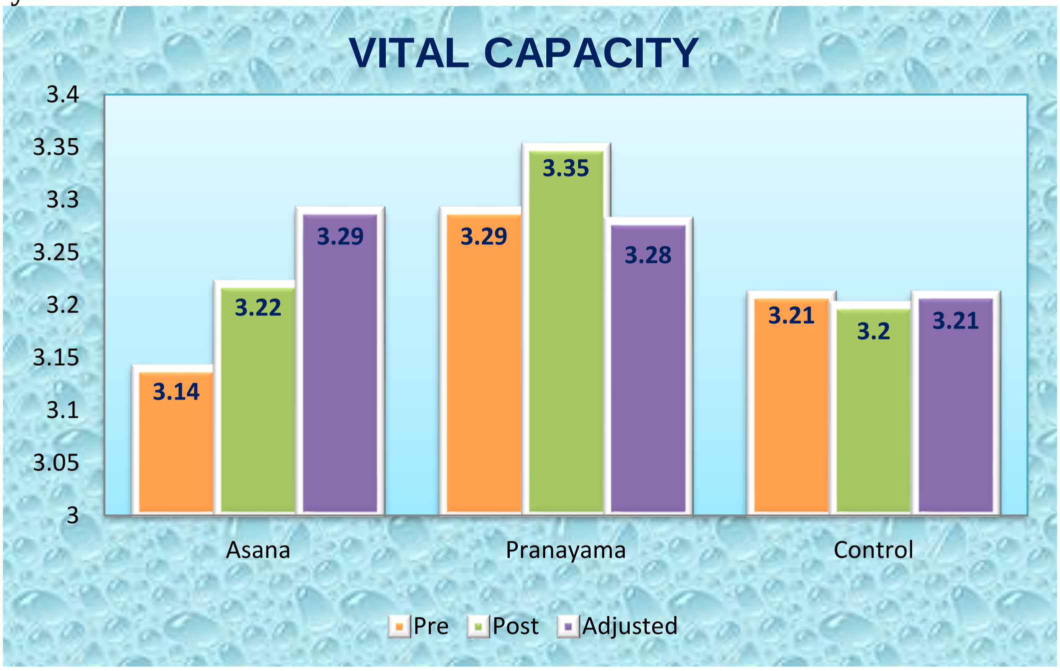
Table-2 indicates that the difference between the paired adjusted final means of asana, pranayama and control groups in heart rate indicated significant value of **3.77*** and **4.02*** which emphasis greater mean gain observed for Asana, pranayama as compared to the control group.

Table 3: Analysis of Covariance for Vital Capacity

	Asana	Pranayama	Control	S.V	df	SS	Mss	F
Pre	3.14	3.29	3.21	Between	2	0.07	0.03	2.03
				Within	28	0.32	0.01	
Post	3.22	3.35	3.20	Between	2	0.09	0.04	1.99
				Within	28	0.42	0.02	
Adjusted	3.29	3.28	3.21	Between	2	0.02	0.01	**8.64***
				Within	27	0.02	0.00	

*F (2, 17) =3.59 F (2, 18) =3.55 *Significant at 0.05 levels.*

Fig 2: Mean Value of Asana, Pranayama and Control Groups with respect to Vital Capacity



The table-3 of analysis of covariance for vital capacity of Asana, Pranayama and Control group indicated insignificant F-ratio of 2.03 and 1.99 for the initial test and final test of means respectively. However, the F-ratio for the adjusted final test mean reveal a value of 8.64* which was significant as it was greater than the F-value of 3.59 required for significant at 0.05 level. This indicates that there were significant differences from adjusted final means of Asana, Pranayama and Control groups in the vital capacity.

Table-4: Scheffe's post hoc tests mean differences on Vital capacity

Mean	Mean	Confidence

Asana	Pranayama	Control	Difference	interval value
3.29	3.28	-	0.01	**0.06**
3.29	-	3.21	**0.08***	
-	3.28	3.21	**0.07***	

Table-4 indicates that the difference between the paired adjusted final means of Asana, Pranayama and control group in vital capacity indicated significant value of **0.08*** and **0.07*** which emphasis greater mean gain observed for Asana and Pranayama group as compared to the control group.

Discussions on Finding

The result of the study it was finding that the asana and pranayama practices are significantly improving the physiological variables namely heart rate and vital capacity. **E. Amuthan (2015)**. Asana and pranayama training will significantly improve the physiological variables.

CONCLUSION

1. Both Asana and Pranayama had significant contributing role over the Heart rate of subjects as a result of twelve weeks asana and pranayama practices.
2. It can be said that the effect of twelve weeks practice of Asana and Pranayama was significant enough to bring about the change in the vital capacity.

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TALENT MANAGEMENT AND DIGITAL TRANSFORMATION OF STRATEGIES IN EDUCATION SECTOR

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Abstract

Its current days the education sector very Fastly move on learning technology-based education. "Digital technology has stimulated rapid change and considerable challenges throughout the modern world. To analyze the strategies of digital transformation and talent management in education sectors. "It is said that the first step toward effective retention is to hire effective people. The youth generation is the country's future. Performance management, career planning, succession planning, and quality of work-life are all important talent management techniques that can be highly beneficial to a business". Mapping Your Talent: Finding brilliant and high-performing people and coming up with plans to nurture, develop, and keep them are becoming increasingly important. Organizations also want to retain talent inventories on hand in case of emergencies. Talent management techniques local, national, or worldwide education regulations. It is essential for educational institutions to stay up to date on policy changes and modify their talent management plans accordingly.

1. Introduction

Its current days the education sector very Fastly move on learning technology-based education. "Digital technology has stimulated rapid change and considerable challenges throughout the modern world. The 2019 novel coronavirus pandemic (COVID-19) has prompted an explosion in remote working and remote learning" (Al Lily et al., 2020; Christensen & Alexander, 2020; Di Pietro et al., 2020; Trust et al., 2020, McCarthy,A,M et al 2023). "Attracting and maintaining high-quality personnel, expanding their skills and expertise, and consistently motivating them to enhance their performance are all part of talent management. The basic goal of talent management is to find, develop, and retain the best employees in the company. Employees with the necessary talents and attributes stay with the company for a long time, thanks to the HR department. A talent management system must be integrated into day-to-day operations.

It is not the job of the Education Department alone to bring about change to recruit and retain employees; rather, it is the responsibility of everyone in the educational sector at all levels". (Chethana, K.M.and Noronha, S,D, 2022). The system must include responsibilities for leaders of educational institutions to foster the skills of their immediate reports. If departments within the educational institution promote information sharing among all department members, employees can gain an understanding of the larger system and organizational goals. Then the fundamental rewiring of an organization through the development of a new digital business model and associated initiatives based on the integration of cutting-edge technologies is known as digital transformation. This means much more than just gaining a competitive edge in the education sector; it offers a chance to address both personal and global issues, like the problem of students who have limited access to education, the need to ensure that everyone has access to education, and the opportunity to improve the quality of education that is provided. There are four degrees of digital transformation in education: technological, individual, institutional, and regional. At the technological level, all participants in the process embrace a technology-driven approach; at the individual level, students and teachers use these tools; educational institutions are the driving force behind the changes; and at the regional level, we find the funding that makes the transformation possible and the legislative force that oversees it. A change at one level necessitates adjustments to the other three since all four levels are interrelated. The following study is based on Digital transformation and talent management strategies in education sectors.

2. Literature review

The corresponding transformation initiatives. "It underscores that Industry 4.0 technologies empower employees to leverage creative, digital and interpersonal skills, fostering continuous learning. HR managers, through coaching and a commitment to sustainable practices, further motivate employees to acquire new skills. This collaborative effort propels the digital transformation of talent management, significantly impacting the overall talent pool". (Banerjee, P. and Sharma, N. 2024). "The critical role of talent management in navigating the digital landscape offers insights into managing the human side of digital transformation ethically and effectively. the key aspects of digital transformation, such as a customer-centric approach, process reengineering, technological integration, data-driven knowledge, collaboration, business model evolution, innovation and agility, and the opportunities and challenges they present. It also highlights the importance of talent management in the digital era, including talent identification, acquisition, development, performance management, recognition, career development, succession planning, and employee engagement and retention. It emphasizes the need for organizations to analyze skills gaps in the context of digital transformation and provides strategies for virtual onboarding and the use of technology in recruitment processes. Furthermore, it addresses the ethical and human considerations in digital transformation, such as data privacy, job displacement, digital divide, bias in AI and analytics, employee well-being, and environmental impact". (Arora,M et al[4], 2024)

3. Objectives

- To study the Talent Management and Digital transformation in education sectors
- To analyze the strategies of digital transformation and talent management in education sectors

4. Methodology

This case study was carried out using secondary sources, including journals, conference proceedings, and online pieces.

5. Digital transformation of talent management in the education sector

In order to become a significant turning point for the organization, digital transformation is a complicated process that involves much more than simply technology and calls for participation from all levels, from stakeholders and educational institutions to teachers and students. With the help of cutting-edge digital tools, the education sector will undergo a radical transformation that will enable educators to give every student a thorough, interesting, and immersive education and equip them for the future. Additionally, it provides educational opportunities for kids from linguistic and cultural minorities or pupils with disabilities. Competent leaders, seasoned partners, employee training, and ongoing improvements are essential for spearheading a successful digital transition.

"The impact that TM has had on businesses in other sectors can be very beneficial to administrators in higher education. Institutions must understand that, particularly in the current environment, nurturing talent from within can be highly advantageous, despite the need to stand out in the corporate sector. Now more than ever, colleges and institutions need to make sure the right person is in the right role". (Heuer, 2003). "Frameworks for cross-cultural cooperation and assistance for teachers involved in international projects may need to be included in talent management plans. More people are expressing a desire for flexible work schedules, such as remote, part-time, or job-sharing alternatives. It can be necessary to modify talent management procedures to satisfy these desires and keep on board seasoned teachers looking for different work arrangements. There can be a teacher shortage in some areas, necessitating creative recruitment and retention strategies. Attracting educators to underdeveloped locations or topic areas with high demand may provide special problems that talent management methods may need to solve. Talent management techniques may be impacted by modifications to local, national, or worldwide education regulations. It is essential for educational institutions to stay up to date on policy changes and modify their talent management plans accordingly". (Yashashwi.A.Ail and Dr. PK Suresh Kumar,2023).

6. **Digital transformation trends in education**

Technological trends are continuously changing the way educational institutions work.

6.1 Artificial intelligence (AI)

AI is rapidly occupying a valuable place in our day-to-day lives, supporting, augmenting, and automating human activities. According to a survey by the Capgemini Research Institute, "more than half of school teachers in Australia, Finland, France, Germany, Japan, the Netherlands, Singapore, the United Kingdom, and the United States believe that AI tools will improve their work by automating administrative tasks and supporting teaching practices. Here are some use cases for AI in education". Based on an evaluation of students' development, knowledge, and proficiency, educational institutions can modify programs and create automated curricula and customized classes. Basic student advisory services that handle routine or straightforward questions, freeing up educators, guidance counselors, and administrative staff to concentrate on more complicated problems. Determine whether students could be at risk of dropping out so that instructors can assist them in continuing their education.

6.2 Machine learning (ML)

Machine learning (ML) is a branch of artificial intelligence that allows robots to mimic human learning by using algorithms to identify patterns in data. to improve the efficiency of the learning process by giving teachers and students study materials, lecture notes, hands-on exercises, and answers. Using machine learning algorithms, determine which pupils are most likely to succeed and which are most at risk of expulsion and will need further support.

6.3 Augmented reality (AR) and virtual reality (VR)

AR and VR provide an immersive experience for students, allowing projecting content into the surroundings and giving access to various virtual scenarios and environments. McKinsey "discovered that students in higher education institutions are most excited about AR and VR tools that are going to make the learning experience more entertaining. The following are some AR and VR application cases in education".

6.4 Gamification

Although this trend may initially seem to be centered around amusement, gamification offers numerous advantages for both teachers and students. The primary benefit is the drive that is fostered by quests, challenges, and reward structures. With real-time feedback that enables them to promptly fix any errors, digital games motivate students to complete learning objectives, engage with one another, and reach goals.

6.5 Blockchain

Blockchain is a decentralized ledger that facilitates the exchange of assets and information without the need for middlemen. Tokenization, distributed ledger technology, encryption, decentralized governance, and immutable records are the main components of blockchain.

7. **Benefits of Digital transformation trends in education**

7.1 Engagement

Teachers can push students to do better work and involve them in the learning process by using a digital environment. A straightforward whiteboard might not be sufficient to maintain students' interest, but other technological solutions influence their mindsets and increase their commitment to conversations, interactions, teamwork, research, and education.

7.2 Progress tracking

Teachers can find it challenging to identify the causes of a particular student's inability to keep up with the curriculum. Tools that can monitor and evaluate student performance in real time help with this problem. Advanced solutions assist in determining a student's strengths and weaknesses, areas of difficulty, and likelihood of dropping out.

7.3 Accessibility and inclusion

One fundamental human right that is still not available everywhere in the globe is education. But as digital technologies advance, more and more students—not just those with special needs, but also those who face socio-spatial, political, or economic obstacles—will have the chance to learn and obtain an education.

7.4 Future-proofing

Virtually every occupation requires digital abilities, therefore schools should prepare their pupils for the workforce. Students between the ages of 16 and 18 are most comfortable with basic digital skills, like using computer apps and finding information online, according to research done in secondary schools across nine countries (Australia, Finland, France, Germany, Japan, the Netherlands, Singapore, the United Kingdom, and the United States) by the Capgemini Research Institute.

8. Challenges of digital transformation in education

8.1 Weak strategy

Digital transformation is driven by strategy, therefore creating one that is appropriate for the company and clear is crucial. This entails establishing goals and objectives, drafting a thorough plan that allows for flexibility, and choosing the technology and tools that will best support those aims.

8.2 Lack of awareness

According to a survey by McKinsey, "a lack of awareness of digital technology is one of the main barriers to the adoption of innovative learning tools in schools and higher education institutions. It is still not common for teaching staff to implement advanced technology solutions as many educators are used to the traditional methods and have little knowledge of the tools that are now available, and how these tools can facilitate both the teaching and learning experiences".

8.3 Lack of skills

Limited capacities are typically accompanied by limited knowledge. Due to a lack of digital competency, many educational institutions are ill-equipped to accept digital revolution. For many instructors to be self-assured and proficient in digital abilities, they nevertheless require direction and training. While teaching staff are in charge of establishing a barrier-free learning environment and honoring students' requirements and knowledge levels, students' employment chances are improved and their future job readiness is enhanced when they build their digital abilities.

9. Process of Talent Management

9.1 Attracting and recruiting talent: For attracting and selecting the proper personnel, a company should employ a variety of approaches and methods. The first and most crucial step in the talent management process is to find a talent pool. The talent pool is a group of people who are the organization's potential executives who will direct the organization toward competitive performance. So, to improve and preserve the organization's performance, it is critical to attract and select talented personnel. a corporation wishes to make a culture change and innovate; however, external sources will be the greatest approach to get talent (Ballesteros &Inmaculada, 2010).

9.2 Retaining and Developing Talent: This is a difficult task for both new and experienced education personnel. It has to do with the workers and is a continuous process. For the talent management process, this is a more difficult assignment. It concentrates on topics including work ethics and values, career planning, work-life balance, and benefits and reward systems. Managing Talent The duty of a business in the education sector does not end with the hiring of staff; efficient employee management is also critical. It concentrates on issues such as the authority's attitude and beliefs. Management systems, leadership styles, discussing work from time to time, providing direction, and making positive recommendations to staff regularly.

10. Challenges and Opportunities in Talent Management

Academic staff members face stress and anxiety due to a number of institutional factors, such as work pressure, job instability, role ambiguity, inadequate compensation and recognition, a lack of funding and resources, poor management techniques, and role erosion and inadequacy. Effective communication is essential in every organization to ensure that no one feels left out. The proper choice: the firm should choose the right person to the right position so that workers can work tirelessly and give their all with a high level of enthusiasm and zeal, which eventually results in higher productivity because they will stay with the company for a long time. Mapping Your Talent: Finding brilliant and high-performing people and coming up with plans to nurture, develop, and keep them are becoming increasingly important. Organizations also want to retain talent inventories on hand in case of emergencies. (Chethana, K.M. and Noronha, S,D, 2022)

11. Conclusion

"The classroom experience from the sage-one-stage way to deal with a more shared learning climate. The achievement of such undertakings will eventually rely on how technology is applied to keep learners locked in. It tends to be baffling and tedious, yet at long last, digital transformation in education can make ready to new encounters, new revelations, and better approaches for learning and teaming up" (Sharma, M, 2020). While "digital transformation" refers to using technology to radically alter how education is managed and delivered, enabling more individualized learning experiences and increased efficiency, "talent management" refers to the strategic identification, development, and retention of high-performing teachers and staff. (Vivek Hariharan,2024). "From a business POV, the ability to solve the doubts of learners on the platform will gain momentum. EdTech is not a substitute for the primary mode of learning. Live coaching and replicating a classroom experience have always been the motto of EdTech. Student retention rate is going to increase as coaching is an important part of the day. Post-pandemic relevance of online learning has proven the capabilities of online learning to students, parents, and educators. "(Sushob Vallan,2024). The "talent management can aid in the discovery of the correct talent, development of talent, and retention of talent in the education sector, which is critical to its success. Another way to look at it is that talent management is a purposeful, deliberate process of attracting, developing, and retaining people who have the aptitude and ability to satisfy present and future organizational needs. It is said that the first step toward effective retention is to hire effective people. The youth generation is the country's future. Performance management, career planning, succession planning, and quality of work-life are all important talent management techniques that can be highly beneficial to a business". (Chethana, K.M. and Noronha, S, D, 2022).

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UTILIZING JUTE GEOTEXTILE FOR SUSTAINABLE GROUND IMPROVEMENT IN INDIA

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Abstract

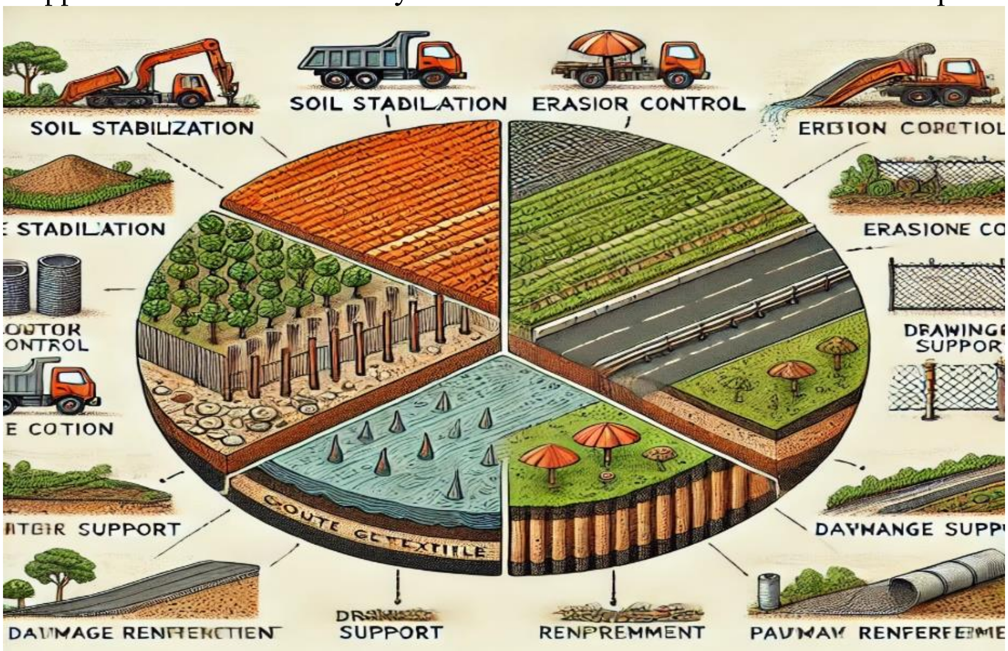
Jute geotextiles offer a promising, sustainable solution for ground improvement in India, a country rich in natural jute resources. With growing environmental concerns and the need for eco-friendly construction materials, jute geotextiles emerge as a viable alternative to conventional synthetic materials, which often contribute to plastic pollution and lack biodegradability. This review paper examines the various applications and benefits of jute geotextile in soil stabilization, erosion control, drainage, and pavement support. Emphasis is placed on the inherent advantages of jute fibers, including high tensile strength, biodegradability, and cost-effectiveness due to local availability in India. In ground improvement, jute geotextiles have shown considerable effectiveness in reinforcing weak soils, preventing erosion on slopes and embankments, and facilitating drainage while separating soil layers. For rural and highway projects, jute-based geotextiles have demonstrated performance comparable to synthetic counterparts, while also enriching soil with organic content as they decompose. This paper also addresses critical limitations, such as the limited lifespan of jute geotextiles compared to synthetics, concerns around standardization and durability, and challenges in widespread adoption due to a lack of awareness and technical support. Case studies from various Indian states, including West Bengal, Assam, and regions along the Ganga and Brahmaputra rivers, illustrate successful applications of jute geotextiles in infrastructure projects. By analyzing both the economic and environmental benefits, this paper advocates for greater adoption of jute geotextiles in India's infrastructure, supported by policy initiatives and research into enhancing their durability and structural integrity. The study concludes by suggesting future research directions to overcome current limitations and promote jute geotextiles as a cornerstone for sustainable civil engineering practices in India, balancing performance needs with ecological and economic sustainability.

Keywords: Jute Geotextiles, Sustainable Ground Improvement, Soil Stabilization, Erosion Control, Biodegradability.

1. Introduction

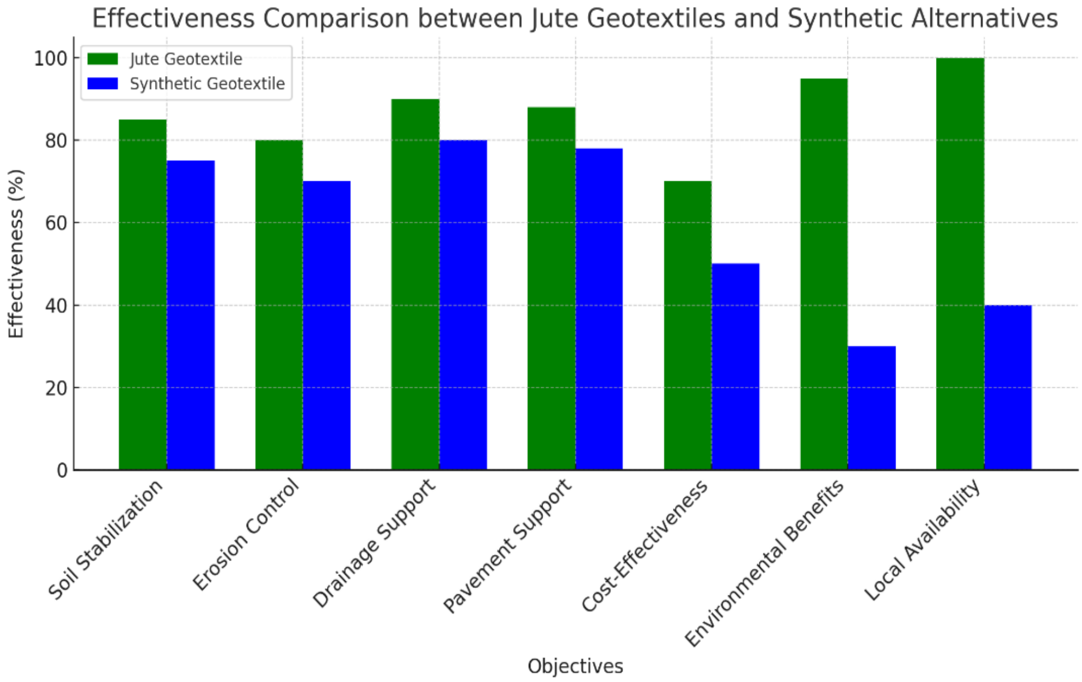
India's rapidly expanding infrastructure demands pose significant challenges in terms of sustainability, particularly in ground improvement applications essential for roads, embankments, and erosion control. Traditionally, synthetic geotextiles have been widely used for their durability and effectiveness in soil reinforcement and stabilization. However, these materials are often non-biodegradable, contributing to long-term environmental degradation and pollution. Given this context, jute geotextiles offer a promising, sustainable alternative that leverages one of India's abundant natural resources—jute fiber. Jute is a renewable, biodegradable material known for its high tensile strength, affordability, and availability across regions in India, making it a cost-effective substitute for synthetic geotextiles. The natural properties of jute allow it to perform essential ground improvement functions, including reinforcing weak soils, preventing erosion on slopes, and aiding in drainage and filtration. Additionally, as it decomposes, jute geotextile adds organic matter to the soil, further enriching it and supporting long-term ecological benefits.

This review paper explores the applications of jute geotextile in sustainable ground improvement, analyzing its performance, environmental impact, and economic viability within the Indian context. The paper also examines the challenges associated with jute geotextiles, such as durability concerns and limited standardization, which hinder its widespread adoption. By drawing on case studies and recent research, this study aims to provide a comprehensive understanding of jute geotextile's potential and to advocate for policy and research support to advance its application as an eco-friendly solution for India's infrastructure development.



The pie chart visually represents the primary applications of jute geotextile in sustainable ground improvement in India. Major segments include soil stabilization, erosion control, drainage support, and pavement reinforcement, each identified by distinct colors and relevant icons.

Soil stabilization holds a significant portion, reflecting the widespread use of jute geotextile in reinforcing weak soils to improve load-bearing capacity in infrastructure projects. Erosion control is another substantial segment, showcasing jute's effectiveness in preventing soil loss on slopes and embankments due to its biodegradable yet sturdy nature. Drainage support involves the use of jute as a filtration layer to aid water flow while maintaining soil separation, essential in areas prone to waterlogging. Pavement reinforcement demonstrates its utility in road construction, where it strengthens base layers and reduces cracking. Overall, the chart highlights jute geotextile as a versatile, eco-friendly solution across critical areas in civil engineering.



Here is the bar chart comparing the effectiveness of jute geotextiles and synthetic alternatives across various objectives. The chart visually highlights how jute geotextiles perform better in most categories, such as soil stabilization, erosion control, drainage support, and environmental benefits. Additionally, the chart demonstrates jute's advantages in cost-effectiveness and local availability.

2. Overview of Jute Geotextile

Overview of Jute Geotextile

Jute geotextile is a versatile and eco-friendly material made from natural jute fibers, primarily used for soil erosion control, reinforcement, and ground improvement. The material's popularity has surged due to its sustainability and cost-effectiveness, especially in developing countries like India, where jute is abundantly available.

Properties of Jute Fiber

Jute fibers, known for their high tensile strength and durability, form the backbone of jute geotextiles. These fibers exhibit excellent resistance to environmental stresses, including UV radiation, making them ideal for outdoor applications. Additionally, jute is biodegradable, which allows the material to break down over time, preventing long-term environmental harm. The availability of jute in India, where the crop is widely cultivated, adds to the accessibility of the material.

Types of Jute Geotextile Applications

Jute geotextiles come in various forms, including woven, non-woven, and knitted fabrics, each suitable for different applications. Woven jute geotextiles are commonly used for erosion control, road construction, and slope stabilization due to their strength and durability. Non-woven jute geotextiles, with their excellent filtration and drainage properties, are used in applications like groundwater protection and drainage systems. Knitted jute geotextiles, while less common, offer flexibility and resilience, making them suitable for certain agricultural and environmental applications.

Manufacturing and Cost Aspects

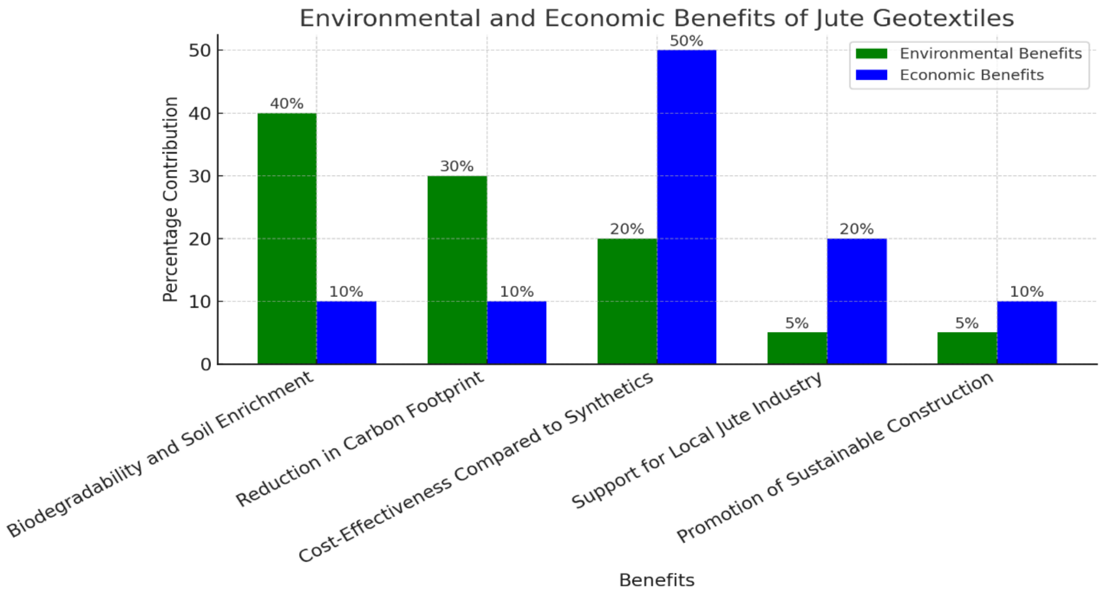
The production of jute geotextiles involves spinning raw jute fibers into threads, which are then woven, knitted, or bonded together to form geotextile fabrics. The manufacturing process is relatively simple and energy-efficient, contributing to the low cost of production. Given jute's widespread cultivation in India, the material remains affordable and accessible. Jute geotextiles offer a cost-effective alternative to synthetic materials, making them a popular choice for large-scale infrastructure projects aimed at sustainable development.

3. Applications in Ground Improvement

Application	Details	Advantages	Disadvantages	First Usage
Soil Erosion Control	Stabilizes slopes in agricultural and coastal areas.	Controls erosion, promotes growth, biodegradable.	May degrade in heavy rain, not for steep slopes.	1980s in India (coastal areas).
Soil Stabilization	Reinforces weak soils for improved load-bearing.	Increases capacity, cost-effective, eco-friendly.	Loses effectiveness under extreme loads.	1990s in India and Bangladesh (roads).
Drainage and Filtration	Separates soil in drainage systems.	Improves infiltration, low-cost, biodegradable.	Degrades under UV, less durable in extreme climates.	1990s in India (agriculture).
Road and Pavement Support	Reinforces roads to prevent cracking.	Prevents cracking, cost-effective, sustainable.	Degrades over time, not for heavy traffic.	1980s in India and Bangladesh (roads).
Flood Control	Stabilizes riverbanks in flood-prone areas.	Natural flood control, supports vegetation.	Needs reinforcement in extreme floods.	1990s in India and Bangladesh (rivers).
Agricultural Applications	Controls erosion, supports crop growth.	Retains moisture, eco-friendly, reduces irrigation.	Degrades over time, limited durability in high-traffic areas.	1990s in India (agriculture).
Landfill Lining	Prevents contamination in landfills.	Biodegradable, cost-effective, prevents leachate spread.	Degrades under harsh conditions.	1990s in India (landfills).
Coastal Protection	Controls erosion in coastal and riverbank areas.	Effective, affordable, biodegradable.	Degrades quickly in saline environments.	1980s in India and Bangladesh (coasta`l areas).

4. Environmental and Economic Benefits

- Here’s a bar chart comparing the Environmental and Economic Benefits of using jute geotextiles:



- Environmental Benefits (in green): Highlight biodegradability, soil enrichment, and carbon footprint reduction, with biodegradability contributing the most (40%).
- Economic Benefits (in blue): Cost-effectiveness stands out (50%), showcasing its affordability compared to synthetic alternatives.
- Reduction of Plastic Waste: Comparative analysis with synthetic geotextiles.
- Economic Viability: Cost analysis showing savings in production and transport, especially with locally sourced jute.

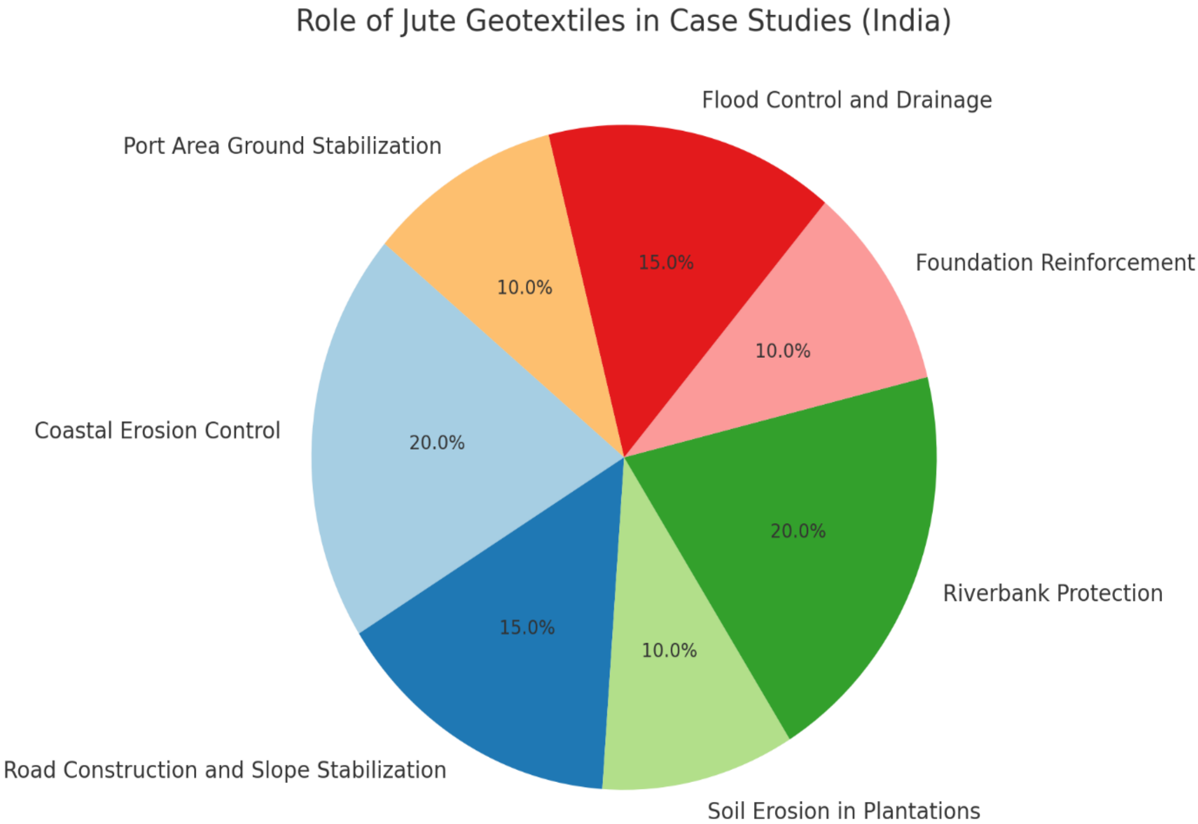
5. Challenges and Limitations

- Durability Concerns: Limited lifespan compared to synthetic alternatives and susceptibility to degradation.
- Quality and Standardization: Need for consistent quality and the development of standards for jute geotextiles.
- Market Awareness and Acceptance: Limited use due to lack of awareness and technical guidance.

6. Case Studies in India

Location	Project Type	Application Details	Outcomes & Benefits	Challenges Faced	Year
Sundarbans, West Bengal	Coastal Erosion Control	Jute geotextiles used to stabilize coastal embankments.	Reduced erosion, promoted vegetation growth, cost-effective.	Frequent maintenance required, faster degradation in saline areas.	Early 2000s
NHAI Road Project, Assam	Road Construction & Slope Stabilization	Used for stabilizing slopes and embankments on highways.	Improved slope stability, reduced erosion.	High rainfall led to faster degradation.	2015
Tea Gardens, Assam	Soil Erosion in Plantations	Jute geotextiles used on steep tea slopes.	Reduced erosion by 60%.	Required reapplication after several seasons.	2010
Riverbanks, Bihar	Riverbank Protection	Jute geotextiles used to control riverbank	Stabilized riverbanks effectively.	Careful installation required.	2018

		erosion.			
Delhi Metro Rail Project	Foundation Reinforcement	Jute geotextiles used to improve soil strength for metro foundations.	Enhanced soil strength and load-bearing capacity.	High load areas needed extra reinforcement.	2017
Ganga River Floodplain, UP	Flood Control & Drainage	Stabilized soil and improved drainage using jute geotextiles.	Reduced erosion, improved drainage.	Integration with local drainage systems required.	2020
Kolkata Port, West Bengal	Port Area Ground Stabilization	Used to stabilize soil in port areas.	Improved stability for heavy equipment.	Faster biodegradation due to high salinity.	2019



Conclusion

Jute geotextiles represent a promising, sustainable solution for ground improvement in India, combining environmental benefits with economic viability. Their biodegradability, local availability, and cost-effectiveness make them an ideal alternative to synthetic geotextiles for soil stabilization, erosion control, drainage, and pavement reinforcement. Moreover, their ability to enrich soil as they decompose adds long-term ecological value, aligning with India's growing emphasis on sustainable infrastructure.

While case studies across India demonstrate successful applications, challenges such as limited durability, standardization issues, and low market awareness hinder widespread adoption. Addressing these barriers through targeted research to enhance durability, consistent quality standards, and awareness campaigns can significantly bolster their utility. Policy initiatives supporting the use of jute geotextiles in infrastructure projects, particularly in rural and flood-prone regions, will further strengthen their role in eco-friendly construction.

Ultimately, jute geotextiles offer a balanced approach to civil engineering that harmonizes performance requirements with environmental sustainability, positioning them as a cornerstone for India's green infrastructure development. With continued innovation and supportive policies, their adoption can pave the way for a more sustainable and resilient construction landscape.

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