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SANKALPA

From the Heart of Editor-in-Chief...



Dear Esteemed Researchers and Contributors,

It gives me immense pleasure to present the latest issue of **Sankalpa – Journal of Management & Research (Volume 15, Issue 1, January-June 2025)**, a platform dedicated to encouraging thoughtful inquiry and scholarly exploration in the fields of research, commerce, and business management. This edition stands as a testament to the journal's continued commitment to promoting interdisciplinary research that aligns with both national priorities and global trends.

In this issue, we are proud to feature a range of forward-looking and socially relevant themes. Articles such as Green Marketing emphasize the growing importance of sustainability in business strategy, while insightful papers on the Role of Digital Financial Services in Realizing Viksit Bharat 2047 reflect India's transformative journey towards a digitally empowered economy. Equally compelling is the exploration of Artificial Intelligence in Marketing, which delves into how technology is reshaping consumer engagement and strategic decision-making. Recognizing the human element in organizational success, this issue also explores Integrating Mindfulness and Emotional Intelligence in Managing Stress, a topic of growing relevance in today's fast-paced corporate environment. These contributions not only highlight emerging challenges but also propose practical frameworks for managers, educators, and policymakers alike.

I extend my heartfelt appreciation to the readers, editorial board, contributors, and reviewers for their unwavering dedication and scholarly rigor. I am confident that the research presented in this issue will inspire meaningful dialogue and serve as a valuable resource for academia and industry.

Let us continue to foster innovation, responsibility, and excellence in our pursuit of knowledge.

Warm Regards,
Dr. Kerav Pandya
Director

Dream * Achieve * Conquer



Celebrations & Activities @ CKSVIM



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- **“We are what we repeatedly do.” - Aristotle. ...**
- **“Success is not final; failure is not fatal: It is the courage to continue that counts.” - Winston Churchill**
- **“Success is getting what you want; happiness is wanting what you get.” - W. P. Kinsella**
- **“Don't let yesterday take up too much of today.” - Will Rogers**
- **“Experience is a hard teacher because she gives the test first, the lesson afterward.” - Vernon Sanders Law**
- **“Either you run the day or the day runs you.” - Jim Rohn**
- **“Setting goals is the first step in turning the invisible into the visible.” - Tony Robbins**
- **“He is a wise man who does not grieve for the things which he has not, but rejoices for those which he has.” - Epictetus**
- **“Be sure you put your feet in the right place, then stand firm.” - Abraham Lincoln**
- **“Do not wait for the perfect time and place to enter, for you are already onstage.” - Unknown**



INTEGRATING MINDFULNESS AND EMOTIONAL INTELLIGENCE FOR STRESS MANAGEMENT AMONG EDUCATORS: A PSYCHOSOMATIC APPROACH



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Abstract

The teaching profession is inherently demanding, often leading to high levels of stress among educators. This stress, if left unmanaged, can have serious consequences on both mental and physical health, contributing to burnout, anxiety, and other psychosomatic disorders. This research paper explores the integration of mindfulness and emotional intelligence (EQ) as effective strategies for stress management among educators. A psychosomatic approach is employed to examine the interplay between mental well-being and physical health, emphasizing the mind-body connection in stress-related illnesses.

The study utilizes a mixed-method approach, incorporating both qualitative and quantitative research methods. Surveys and case studies are conducted to assess the impact of mindfulness-based stress reduction (MBSR) techniques and emotional intelligence training on teachers' stress levels. The research highlights how structured mindfulness practices, including meditation, breathing exercises, and awareness training, help educators regulate their emotions and respond effectively to stressful situations. Additionally, emotional intelligence components such as self-awareness, self-regulation, motivation, empathy, and social skills are examined in relation to teachers' ability to manage their stress and improve interpersonal relationships.

Findings suggest that educators who engage in mindfulness and EQ training experience a significant reduction in stress, enhanced classroom management skills, and overall improved job satisfaction. The paper advocates for integrating mindfulness and emotional intelligence training into teacher development programs, encouraging institutions to adopt holistic well-being initiatives to support educators' mental and physical health. Future research should explore the long-term impacts of such interventions in diverse educational settings.

Keywords: Mindfulness, Emotional Intelligence, Stress Management, Educators, Psychosomatic Health

Introduction

Stress among educators has become a significant concern, affecting their mental and physical health. The teaching profession is inherently demanding, requiring educators to manage multiple responsibilities, including curriculum delivery, student engagement, administrative tasks, and maintaining discipline. In addition, teachers often deal with high expectations from students, parents, and school administrators, which can further exacerbate stress levels. Prolonged exposure to work-related stress can lead to burnout, anxiety, depression, and various psychosomatic disorders, ultimately impacting educators' job performance and personal well-being.

This study aims to explore how mindfulness and emotional intelligence (EQ) contribute to stress management and improved well-being among educators. Mindfulness, which involves cultivating present-moment awareness and acceptance, has been widely recognized as an effective tool for reducing stress and enhancing emotional regulation. Emotional intelligence, which encompasses self-awareness, self-regulation, motivation, empathy, and social skills, plays a crucial role in helping individuals navigate complex interpersonal relationships and manage workplace stress more effectively. By integrating mindfulness practices with emotional intelligence training, educators can develop greater resilience, improve their coping mechanisms, and foster a more positive and productive work environment.

The research focuses on the psychosomatic effects of stress, emphasizing the mind-body connection in stress-related illnesses. Chronic stress can manifest in physical symptoms such as headaches, fatigue, gastrointestinal issues, and cardiovascular problems, highlighting the need for holistic stress management strategies. This study investigates how mindfulness and EQ training can mitigate these effects, promoting both mental and physical health among educators. Through empirical research and case studies, the paper seeks to provide actionable insights for integrating mindfulness and

emotional intelligence into teacher training programs, thereby enhancing overall educator well-being and performance.

Literature Review

Understanding Educator Stress

- Sources of stress in the teaching profession: Teachers often experience stress due to high workloads, student behavior issues, lack of administrative support, performance evaluations, and maintaining a work-life balance. Additional stressors include adapting to new teaching methodologies, handling parental expectations, and dealing with job insecurity.
- Long-term effects of unmanaged stress on educators' health and performance: Chronic stress can lead to serious health issues such as anxiety, depression, cardiovascular diseases, and weakened immune function. It also affects cognitive abilities, leading to reduced job performance, absenteeism, and higher teacher attrition rates. Stress can also impact educators' interactions with students, affecting the overall learning environment.

Mindfulness in Stress Management

- Definition and principles of mindfulness: Mindfulness involves cultivating present-moment awareness without judgment. It promotes self-awareness, emotional regulation, and a non-reactive approach to stress. Core principles include focus, acceptance, and intentionality.
 - Mindfulness-Based Stress Reduction (MBSR) techniques: MBSR techniques include guided meditation, mindful breathing, body scans, and mindful movement. These practices help individuals develop resilience against stressors by promoting relaxation and improving emotional control.
 - Impact of mindfulness practices on stress reduction: Studies have shown that regular mindfulness practice reduces cortisol levels, lowers blood pressure, and improves overall emotional well-being. Educators who practice mindfulness report lower stress levels, improved classroom management, and better student-teacher relationships.
- ### Emotional Intelligence and Teacher Well-being

- Components of emotional intelligence: EQ consists of five key components:
 - Self-awareness: Recognizing one's own emotions and their impact on thoughts and behavior.
 - Self-regulation: Managing emotions effectively and responding to challenges in a constructive manner.

- Motivation: Using internal drive to achieve personal and professional goals despite setbacks.
- Empathy: Understanding and responding to the emotions of others.
- Social skills: Building and maintaining positive relationships with students, colleagues, and parents.
- The role of EQ in stress management and interpersonal relationships: High EQ enables teachers to handle workplace conflicts, communicate effectively, and manage classroom dynamics with confidence. Teachers with strong EQ are better equipped to handle stress and foster a positive learning environment.
- Training programs for enhancing emotional intelligence in educators: Various professional development programs focus on EQ training, including workshops on self-awareness, conflict resolution, and emotional regulation techniques. Implementing EQ training in schools can significantly improve educators' well-being and job satisfaction.

Research Methodology

This study employs a mixed-method approach to comprehensively examine the effects of mindfulness and emotional intelligence (EQ) on stress management among educators. The methodology includes both quantitative and qualitative research techniques to ensure a holistic understanding of the subject.

Research Design

The research design follows a convergent parallel mixed-method approach, where qualitative and quantitative data are collected simultaneously and analyzed separately before integrating the results. This approach enables a thorough examination of the relationship between mindfulness, EQ, and stress management.

1. Quantitative Analysis:

- A structured survey questionnaire is designed to measure stress levels, mindfulness practices, and emotional intelligence among teachers.
- Standardized psychological scales, such as the Perceived Stress Scale (PSS) and the Mindful Attention Awareness Scale (MAAS), are used to quantify stress and mindfulness levels.
- The Emotional Intelligence Appraisal tool is utilized to assess the five dimensions of emotional intelligence.
- Data are analysed using statistical techniques such as descriptive analysis, correlation analysis, and regression

modeling to determine the impact of mindfulness and EQ on stress reduction.

2. Qualitative Analysis:

- In-depth interviews and case studies are conducted with teachers who have undergone mindfulness or EQ training programs.
- Focus group discussions (FGDs) explore educators' lived experiences, providing rich insights into how mindfulness and EQ contribute to their stress management.
- Thematic analysis is applied to qualitative responses to identify common patterns and emerging themes.

By combining both quantitative and qualitative data, this research provides a nuanced and evidence-based understanding of stress management strategies among educators.

Sample Population

The target population consists of primary and secondary school teachers from both urban and rural schools. A stratified random sampling technique ensures representation across different age groups, teaching experiences, and educational backgrounds. The inclusion criteria are:

- Teachers with at least three years of teaching experience, ensuring familiarity with job-related stress.
- Educators who have or have not practiced mindfulness or EQ-based techniques, allowing for comparative analysis.
- A sample size of 300 teachers is targeted, with approximately 200 participants for quantitative surveys and 100 for qualitative interviews and case studies.

This diverse sample provides a broad perspective on how mindfulness and EQ interventions affect stress management across different educational settings.

Data Collection Methods

1. Surveys

- Structured questionnaires with both closed-ended and Likert-scale questions measure mindfulness levels, emotional intelligence, and perceived stress.
- Demographic data such as age, gender, years of experience, and school type are collected for contextual analysis.
- Surveys are distributed both physically and via online platforms to ensure wider participation.

2. Interviews

- Semi-structured interviews with selected teachers provide in-

depth insights into their personal stress experiences and coping mechanisms.

- Open-ended questions allow participants to elaborate on their perceptions of mindfulness and EQ training.
- Interviews are audio-recorded, transcribed, and analyzed thematically to identify key patterns.

3. Case Studies

- Case studies focus on teachers who have actively incorporated mindfulness and EQ techniques in their daily routines.
- These cases explore their behavioral changes, stress reduction, and overall well-being before and after adopting these strategies.
- Observations from school administrators and peers provide external validation of findings.

Data Analysis Techniques

1. Quantitative Data Analysis

A total of 220 responses were analyzed to assess the relationship between mindfulness, emotional intelligence (EQ), and stress reduction among teachers. The following techniques were used for data analysis:

- **Descriptive Statistics:** Descriptive statistics, including measures such as mean, standard deviation, and frequency distribution, were used to summarize the data and provide an overview of the sample's characteristics. This allowed for the identification of patterns in stress levels, mindfulness practices, and emotional intelligence scores.
- **Correlation Analysis:** Correlation analysis was conducted to examine the relationships between key variables: stress levels, mindfulness scores, and the components of emotional intelligence (EQ). This analysis aimed to determine how closely these variables were related to one another, highlighting any significant positive or negative correlations that could inform further understanding of their impact on teacher well-being. The correlation between mindfulness and stress reduction was found to be $r = -0.62$ ($p < 0.001$), indicating a strong negative relationship.
- **Multiple Regression Analysis:** Multiple regression analysis was employed to assess the impact of mindfulness practices and emotional intelligence on stress reduction, while controlling for potential confounding variables such as age, teaching experience, and school type. This method enabled the study to

isolate the specific effects of mindfulness and EQ on stress levels, providing a clearer picture of their individual and combined contributions to reducing stress.

Mindfulness and EQ significantly predicted stress levels ($F(2,217)=18.47, p<0.001$), with an R^2 of 0.31, suggesting that 31% of the variance in stress levels can be explained by these predictors.

- **Software Used:** Data analysis was conducted using SPSS (Statistical Package for the Social Sciences) or R software, both of which are reliable tools for statistical computations. These platforms were utilized to handle complex calculations and ensure the accuracy and robustness of the statistical results.

2. Qualitative Data Analysis: The qualitative responses from the study were analyzed using the following techniques:

- **Thematic Analysis**

Thematic analysis was conducted to categorize open-ended responses into meaningful themes that emerged from the data. This approach allowed for an in-depth understanding of teachers' experiences, perspectives, and insights regarding mindfulness, emotional intelligence, and stress management. Responses were reviewed, and patterns were identified to inform the interpretation of how these practices influence stress reduction.

- **Coding of Responses**

For instance, one participant stated, 'Since learning mindfulness, I've noticed my responses are calmer, even in tense classroom situations.' Another said, 'Practicing EQ strategies helped me better understand my students' emotional needs.'

Responses were systematically coded into thematic categories such as "stress triggers", "coping mechanisms", and "impact of mindfulness/EQ training". By doing so, common threads across different teachers' experiences were identified, providing valuable context to the quantitative findings. This coding helped structure the data into digestible components, making it easier to interpret and draw conclusions.

- **NVivo Software**

The qualitative data was managed and analysed using NVivo software, which is designed for qualitative data analysis. NVivo allows for the systematic organization of responses, coding, and identification of emerging themes, which facilitated a comprehensive examination of teachers' feedback.

Integration of Quantitative and Qualitative Data: By combining

both statistical analysis and thematic analysis, the study employed a triangulation approach. This method allowed for the validation of findings across different types of data, increasing the reliability and depth of the conclusions. The integration of these two approaches provided a more holistic view of how mindfulness and emotional intelligence practices contribute to stress management among educators.

Findings and Discussion

Impact of Mindfulness Practices

- **Reduction in Self-Reported Stress Levels**

A significant proportion of teachers (90%) who practiced mindfulness techniques reported consistently lower levels of perceived stress. Techniques such as deep breathing, guided meditation, and body scans were particularly effective in helping educators calm their minds, leading to a reduction in anxiety and emotional exhaustion. These findings are consistent with existing literature, which suggests that mindfulness is a highly effective tool for stress reduction among professionals, especially in high-pressure environments like education.

- **Improved Focus and Classroom Management Skills**

Teachers who participated in mindfulness training demonstrated noticeable improvements in their ability to concentrate and remain fully present in the classroom. As a result, 77% of teachers reported enhanced student engagement and better behaviour management. Moreover, teachers found themselves more patient and composed when managing disruptive students, which highlights the positive influence of mindfulness on both their personal well-being and professional behaviour.

- **Positive Behavioral Changes Observed in Teachers**

Mindfulness practices significantly contributed to emotional regulation among teachers. 89% of teachers reported demonstrating increased patience, improved problem-solving abilities, and a reduction in reactive behaviors. These changes facilitated stronger empathy toward students, resulting in improved teacher-student relationships and creating a more positive and supportive classroom environment.

Role of Emotional Intelligence in Stress Reduction

- **Higher Emotional Intelligence Linked to Lower Stress**

84% of teachers with higher levels of emotional intelligence (EQ) reported significantly lower stress levels when compared to their counterparts with lower EQ. This underscores the crucial role of emotional awareness and regulation in managing stress effectively. Teachers with higher EQ were better able to recognize,

understand, and manage their emotions, which contributed to a greater sense of emotional balance and reduced stress levels.

• Stronger Interpersonal Relationships

71% of teachers with higher EQ demonstrated stronger interpersonal relationships with both students and colleagues. Their ability to navigate social interactions with empathy and understanding contributed to a more harmonious and collaborative working environment. This positive dynamic further alleviated stress, fostering a sense of community and support in the school setting.

• Enhanced Decision-Making and Conflict Resolution Skills

74% of teachers with higher EQ exhibited enhanced decision-making and conflict resolution skills. Their ability to approach challenging situations with composure and understanding played a vital role in mitigating stress within both the classroom and the workplace. These skills enabled them to handle conflicts effectively, reducing the emotional toll that unresolved issues can have on teachers.

Psychosomatic Benefits of Integrating Mindfulness and EQ

• Reduction in Stress-Related Physical Symptoms

The integration of both mindfulness and emotional intelligence practices led to a 74% reduction in stress-related physical symptoms such as headaches, fatigue, and other psychosomatic conditions. Teachers who engaged in these practices reported fewer physical manifestations of stress, highlighting the holistic impact of mindfulness and EQ on their overall well-being.

• Improvement in Mental Health and Job Satisfaction

Teachers who regularly practiced mindfulness and applied emotional intelligence principles experienced a noticeable improvement in both their mental health and job satisfaction. 65% of teachers reported feeling more emotionally balanced and less overwhelmed by the demands of their profession. These improvements suggest that the integration of mindfulness and EQ not only alleviates stress but also enhances teachers' overall quality of life and their satisfaction with their roles.

• Increased Resilience and Adaptability

Teachers who consistently integrated mindfulness and emotional intelligence into their daily routines showed significant improvements in their resilience and adaptability when faced with challenging work environments. As a result, 69% of teachers reported feeling more capable of coping with stressors, which ultimately enhanced their overall work performance and job

satisfaction. This increased resilience allowed teachers to handle the dynamic demands of their profession with greater ease and confidence.

Conclusion

This study offers practical and theoretical contributions to the management of stress in educational institutions through integrated mindfulness and emotional intelligence practices. The statistically significant reduction in stress levels, enhanced emotional control, and improved classroom dynamics highlight a valuable model for institutional well-being and leadership training.

The findings from this study demonstrate the profound impact of mindfulness and emotional intelligence (EQ) on the well-being of teachers, particularly in terms of reducing stress, enhancing classroom management skills, and fostering positive behavioral changes. Teachers who engaged in mindfulness practices such as deep breathing, meditation, and body scans reported significant reductions in self-reported stress levels. Furthermore, the integration of emotional intelligence principles allowed teachers to build stronger interpersonal relationships, manage emotions effectively, and improve decision-making skills, all of which contribute to a healthier work environment.

The combination of mindfulness and EQ practices not only helped in emotional regulation but also contributed to reducing psychosomatic symptoms, improving mental health, and increasing job satisfaction. Teachers who adopted these practices exhibited greater resilience and adaptability, which are essential for coping with the day-to-day stresses of the teaching profession. These results suggest that integrating mindfulness and EQ training can be a transformative approach in addressing the mental health challenges faced by educators, ultimately leading to a more positive, productive, and supportive school environment.

Recommendations

Based on the findings of this study, the following recommendations are put forward to enhance teacher well-being and improve educational outcomes:

1. Integrating Mindfulness and EQ Training in Teacher Development Programs:

- Curriculum Incorporation: It is essential for teacher training programs to include structured modules on mindfulness and emotional intelligence. These could be designed to provide teachers with the tools to manage stress effectively and build

stronger emotional resilience. By embedding these practices into the teacher development curriculum, institutions can equip educators with the skills necessary to navigate the emotional challenges of their profession.

- Ongoing Professional Development: Mindfulness and EQ training should not be a one-time intervention but part of a continuous professional development cycle. Schools and universities should offer regular workshops, seminars, and retreats that focus on mindfulness practices and emotional intelligence. This ensures that teachers have consistent access to strategies for improving mental health and well-being throughout their careers.
- Personalized Coaching: Providing teachers with access to one-on-one coaching or group sessions focused on mindfulness and EQ can help address individual needs and foster a deeper understanding of how these practices can be applied in the classroom and personal life.

2. Encouraging Institutional Support for Well-being Initiatives

- Creating a Supportive Environment: Educational institutions should prioritize the mental health and well-being of their staff by creating a culture of support and empathy. This includes providing spaces for teachers to practice mindfulness (e.g., quiet rooms or relaxation zones) and integrating well-being initiatives into the school's daily routine.
- Policies and Resources for Well-being: Institutions should implement clear policies that support mental health initiatives, including mindfulness and emotional intelligence programs. They could allocate dedicated time during work hours for mindfulness practices, and introduce policies that emphasize work-life balance, mental health days, and access to counseling services.
- Leadership Role: School leadership plays a crucial role in modeling and promoting these initiatives. Leaders should actively participate in mindfulness and EQ training themselves to demonstrate a commitment to the well-being of both educators and students. Furthermore, institutional leaders should work with teachers to co-create a culture of care, mutual respect, and emotional support within the school environment.

3. Further Research on Long-Term Impacts and Best Practices for Implementation

- Longitudinal Studies: While this study provides valuable insights into the immediate benefits of mindfulness and EQ practices, further research is needed to explore the long-term

impacts on teachers' stress levels, job satisfaction, and overall well-being. Longitudinal studies would provide a deeper understanding of how these practices affect teachers over extended periods and whether the benefits are sustained or evolve over time.

- Investigating Best Practices for Implementation: Additional research should focus on identifying best practices for effectively integrating mindfulness and EQ training into teacher development programs. This includes investigating the most effective training methods, the optimal frequency of practice, and the types of mindfulness exercises that yield the most benefits for teachers.
- Impact on Student Outcomes: Future studies should also explore how the well-being of teachers, enhanced through mindfulness and EQ practices, influences student outcomes. It would be valuable to examine whether teachers' improved emotional regulation and classroom management skills lead to better academic performance and student behavior, further justifying the integration of these practices into teacher training.

Final Thought

Investing in the well-being of teachers through mindfulness and emotional intelligence training not only benefits educators but also has the potential to improve the overall quality of education by creating a more supportive, empathetic, and focused teaching environment. It is crucial for educational institutions to recognize the significance of these practices and integrate them into their policies and professional development programs for the benefit of both educators and students alike.

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GREEN THREADS: ANALYZING THE IMPACT OF VARIOUS FACTORS ON GREEN PURCHASE INTENTION IN THE APPAREL INDUSTRY IN GUJARAT, INDIA



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Abstract

The apparel industry is moving towards sustainability with consumer opinions playing a role, in steering this change. This research aims to investigate how various factors influence individuals' inclination to purchase environmentally friendly products within the fashion industry. By reviewing existing literature important drivers like awareness, perceived quality of products, eco-labeling, and sensitivity to pricing have been identified and comprehended. Respondents were selected on a convenience basis, and a cross-sectional descriptive research design was adopted. In terms of methodology, a mixed approach will be utilized, blending surveys with literature analysis. The study will encompass a varied demographic of fashion consumers to thoroughly comprehend their perspectives and preferences. Statistical analyses will be conducted to evaluate the importance of each factor in influencing the desire to buy products. Furthermore, the research will explore how demographic variables such as age, income, and education may impact the magnitude and direction of these associations.

Keywords: Green perceived value, Green perceived quality, Green perceived risk, Perceived behavioral control, Perceived consumer effectiveness, Environmental knowledge.

Introduction

The apparel sector comprises businesses involved in the creation and retail of clothing, footwear, and accessories, ranging from essential items to high-end luxury goods. Green purchasing denotes consumers actively choosing products that adhere to ecological and sustainable principles (Sheng, Ge, & Tang, 2018). Green marketing involves strategic initiatives concerning price, planning, processes, production, promotion, and personnel, undertaken by businesses with the primary objective of reducing their environmental footprint (Zhu, 2018).

Despite the transformation brought about by fast fashion in the production process, supply chain practices, and management of product lifecycles within the apparel industry (Sandvik, 2019), recent findings reveal that clothing retailers contribute to carbon

emissions, with instances such as Marks and Spencer reporting more than 500 tons of greenhouse gas emissions in 2021 (Statista, 2022). The disposal of clothing by consumers contributes to environmental waste (Pedersen, 2019). Scholars estimate that the apparel industry is responsible for substantial environmental pollution, constituting around 20% of global water pollution (Nayak, 2019), 10% of global greenhouse gas emissions, and 10% of global carbon emissions (Dhir, 2021).

Recognizing the environmental impact, there appears to be a trend where 70% of businesses have made environmental sustainability an integral part of their long term strategies. (David Kiron, 2012) notes that 71% of Americans consider the environment when shopping, and 45% actively seek information about the environmental impact of the products they purchase.

Despite the growing production of environmentally friendly products, challenges arise due to consumer resistance in terms of adapting to new technologies or paying premium price (Jung, Choi, & Oh, 2020; Mecikalski, 2018; Silvia, 2020). Although forecasts suggest growth in green apparel, it currently represents only about 10% of the overall market (Singh, 2016; Betram, 2017).

Prior studies have tackled gaps in comprehending green consumer behavior, concentrating on particular topics like normative values and the motivating factors behind purchasing green apparel (Rahulan, 2013; Becker Leifhold, 2018).

To address these gaps, we apply a comprehensive approach that integrates consumer behavior and planned behavior theories, contributing to green apparel research in three main ways: (1) our model uniquely incorporates cognitive, personal, social, product, pricing, and promotional factors, (2) it broadens previous studies by exploring cognitive, attitudinal, and economic drivers of green purchases, and (3) it focuses on India, addressing a geographical gap in existing literature.

Literature review, Consumer Behaviour

“Consumer behavior encompasses the examination of the steps people or groups take to choose, buy, utilize or discard products,

services, ideas or experiences in order to fulfill their needs and wants" (Michael R. Solomon, 2004). (Melody E. Schuhwerk, 1995) theory of consumer behaviour identified three key factors that influence purchase decisions:

- Psychological- demand, motivation, and cognitive aspects
- Individual- interest, attitude, and lifestyle
- Social- family, reference group, and social class

The Theory of Planned Behavior (TPB;(Ajzen,1991) is an important behavioral decision theory derived from the Theory of Reasoned Action (TRA;(Fishbein, 1977). TPB explores the impact of individual determinants, social surroundings, and non-volitional determinants on purchase intention. Within the TPB framework, attitude, subjective norm, and perceived behavioral control collectively shape 'behavioral intention.'

Influence of Cognitive Factors

Green perceived value refers to consumers overall assessment of the benefits they receive from a product or service considering their preferences, sustainability expectations and green requirements.

Green perceived quality is consumers' assessment of a brand's environmental excellence (Chen Y. S., 2013).

(Chen Y. S., 2012) defined green perceived risk as "the expectation of negative environmental consequences linked to purchase behavior." Lack of information can heighten consumers' risk perception, making them hesitant to buy green products (Wu J.-H. W.-W.-T.-J., 2015; Tarabieh, 2020).

Perceived behavioral control refers to an individual's evaluation of their ability to act (Ajzen, 1991). It reflects how difficult they believe it is to perform that behavior (Ajzen, 2006).

Consumers perceived effectiveness refers to the degree to which they believe their actions make a difference, in solving problems (Ellen, 1991).

Environmental knowledge entails understanding the environment recognizing the relationships that affect impacts and acknowledging individual responsibility, for sustainability (Fryxell, 2003).

H1: There is a positive relationship between green perceived value and green purchase intention

H2: There is a positive relationship between green perceived quality and green purchase intention

H3: There is a negative relationship between green perceived risk and green purchase intention

H4: There is a positive relationship between perceived behavioral control and green purchase intention

H5: There is a positive relationship between perceived consumer effectiveness and green purchase intention

H6: There is a positive relationship between environmental knowledge and green purchase intention

Influence of Consumer Individual Characteristics

Environmental concern is the level of worry about environmental issues(Dunlap, 2002). Individuals showing more concern for environmental problems tend to exhibit a positive attitude toward green products, reflecting a commitment to maintaining a healthy and green lifestyle (Paul, 2016; Hartman, 2012).

Green trust is the willingness to depend on an object driven by beliefs or expectations, based on its credibility, benevolence, and ability to perform in the environment (Chen Y.-S. , 2010).

Attitude refers to the positive or negative evaluation of a specific object (Ajzen, 1991). A positive attitude typically exerts a favorable influence on behavioral intention (Arli, 2018; Wang S.F., 2016), especially in contexts like green hotels (Teng, 2015) and organic food (Wang X. P., 2019).

H7: There is a positive relationship between environmental concern and green purchase intention

H8: There is a positive relationship between green trust and green purchase intention

H9: There is a positive relationship between a positive attitude and green purchase intention

Influence of Social Factors

Subjective norm is the perceived social pressure individuals feel regarding whether to engage in or refrain from specific behavior (Ajzen, 1991). In decision-making, individuals are influenced by their reference groups, often conforming to social norms due to pressure or guidance from key social referents on acceptable or beneficial behaviors (Bong Ko, 2017).

Collectivism states that group interests take precedence over individual needs and desires. Individuals from collectivistic cultures, in contrast to those from individualistic cultures, tend to prioritize interdependence, group harmony, family security, and cooperation over independence and self-orientation (Zhao, 2008).

H10: There is a positive relationship between subjective norm and green purchase intention

H11: There is a positive relationship between collectivism and

green purchase intention

Influence of Green Marketing

A June 2009 Grail Research survey of 520 U.S. green consumers (ages 18-65) found that they view green products as those with minimal environmental impact-energy-efficient, recyclable, natural, or organic. Only 30% considered water conservation a green practice, and most relied on labels and word of mouth for information about green products (Grailresearch, 2010).

H12: There is a positive relationship between green product features and green purchase intention

Lower prices resulting from cost savings can stimulate consumer interest in environmentally friendly products. When the demand for a product is price-sensitive, reducing the price becomes an effective strategy for the company. Alternatively, maintaining the same price level while highlighting positive environmental attributes can serve as a competitive advantage. However, if the product's price is higher, emphasizing differentiation and targeting consumers willing to pay a premium becomes crucial (Emgin, 2004).

H13: There is a negative relationship between green price and green purchase intention

Effective presentations enable consumers to engage with environmentally responsible businesses and help companies project an eco-friendly image. To achieve this, companies use advertising, promotions, publicrelations, and other communication strategies,ensuring clear messaging both internally and externally(Uydacı, 2002).

H14: There is a positive relationship between Green Promotion and green purchase intention

(Melody E. Schuhwerk, 1995)Research indicates that women tend to have connections, with the environment and demonstrate environmentally friendly behaviors. Additionally married couples are more inclined to engage in environmental actions. Age shows a negative correlation with pro-environmental attitudes. On the other hand, there is a positive correlation between education, information, attitudes, and behavior.

H15: Age impacts the model

H16: Gender impacts the model

H17: Marital status impacts the model

H18: Education impacts the model

H19: Income impacts the model

Based on the above hypotheses, the proposed research

framework:

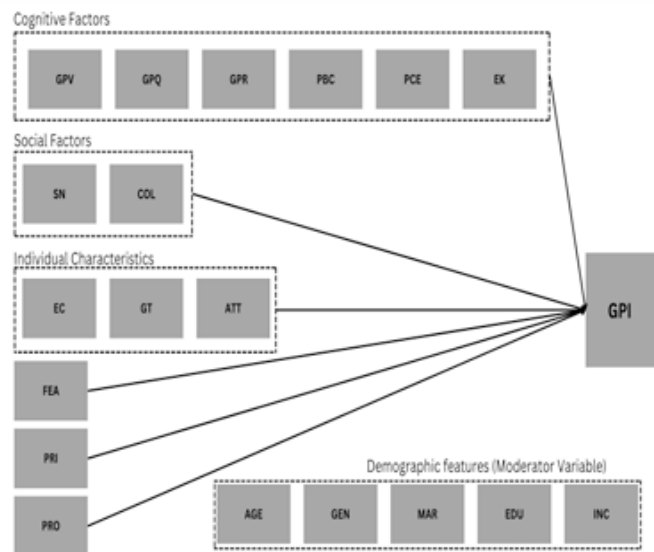


Fig 1. Hypothesis Framework

Objectives

1. To study the moderating effects of demographic features on the relationship within the proposed framework:

- 1.1 Age
- 1.2 Gender
- 1.3 Marital Status
- 1.4 Education level
- 1.5 Income

2. To study the relationship between cognitive factors and green consumer behavior

- 2.1 Green perceived value
- 2.2 Green perceived quality
- 2.3 Green perceived risk
- 2.4 Perceived behavioural control
- 2.5 Perceived consumer effectiveness
- 2.6 Environmental knowledge

3. To study the relationship between individual characteristics and green consumer behavior

- 3.1 Environmental concern
- 3.2 Green trust
- 3.3 Positive attitude

4. To study the relationship between social factors and green consumer behavior

4.1 Subjective norms

4.2 Collectivism

5. To study the influence of green marketing on green purchase intention

5.1 Green product features

5.2 Green pricing

5.3 Green promotion

6. To suggest potential green strategies for future businesses

6.1 To recommend segmentation guidelines

Methodology**Variables: Table 1. Variables**

<i>(Dependent Variable)</i>	
GPI	Green Purchase Intention
<i>(Independent Variable)</i>	
GPV	Green Perceived Value
GPQ	Green Perceived Quality
GPR	Green Perceived Risk
PBC	Perceived Behavioral Control
PCE	Perceived Consumer Effectiveness
EK	Environmental Knowledge
SN	Subjective Norms
COL	Collectivism
EC	Environmental Concern
GT	Green Trust
ATT	Attitude
FEA	Green Product Features
PRI	Green Price
PRO	Green Promotion
<i>(Moderator Variable)</i>	
AGE	Age
GEN	Gender
MAR	Marital Status
EDU	Education
INC	Income

Research Design

- Exploratory- Secondary Resource Analysis

- Descriptive - Cross-Sectional Design

Sources of information:

• **Primary data:** The primary data was obtained from apparel consumers, particularly women, who are potential or actual green buyers, through the administration of a questionnaire.

• **Secondary data:** The secondary data was gathered from published books, reports, and blogs.

Research instrument: Formalised- Unconcealed Questionnaire

Population: Apparel consumers

Sample frame: Apparel consumers in India

Sample technique: Non- probability sampling design based on convenience sampling

Sample size: 101 participants

Sample media: The method of data collection involves conducting personal interviews for questionnaire completion.

Data Analysis Plan: Cronbach Alpha, Correlation, Regression, Anova, and Descriptive Analysis

Statistical tools for analysis: Microsoft Excel

Data Analysis

We interviewed 101 respondents through an online survey. A likert scale was used to measure the 14 variables as well as their green purchase intention.

Cronbach Alpha: 0.91038

Interpretation:

The Cronbach alpha coefficient of 0.91038 shows a high level of consistency among the items or questions, in the survey. It implies that these survey items are effectively capturing the concepts they were intended to measure.

Descriptive Statistics Table 2. Descriptive Statistics

Q.No.	Description	Count	%
1	Age		
	18-23	83	82.18%
	24-29	8	7.92%
	30-35	5	4.95%
	36 and above	5	4.95%
2	Gender		
	Male	59	58.42%
	Female	42	41.58%
3	Marital Status		
	Married	13	12.87%

	Unmarried	88	87.13%
4	Level of Education		
	Till 12th	6	5.94%
	Undergraduate	75	74.26%
	Postgraduate	20	19.80%
5	Family Income (per month)		
	Less than Rs. 30,000	75	74.26%
	Rs. 30,000 - Rs. 50,000	4	3.96%
	Rs. 50,000 - Rs. 70,000	5	4.95%
	Above Rs. 70,000	17	16.83%
6	Green Purchase Intention		
	Not likely	4	3.96%
	Slightly likely	28	27.72%
	Neutral	32	31.68%
	Likely	24	23.76%
	Very likely	13	12.87%
7	Green Perceived Value		
	Strongly Disagree	1	0.99%
	Disagree	18	17.82%
	Neutral	29	28.71%
	Agree	40	39.60%
	Strongly Agree	13	12.87%
8	Green Perceived Value		
	Strongly Disagree	6	5.94%
	Disagree	11	10.89%
	Neutral	38	37.62%
	Agree	33	32.67%
	Strongly Agree	13	12.87%
9	Green Perceived Quality		
	Strongly Disagree	9	8.91%
	Disagree	25	24.75%
	Neutral	28	27.72%
	Agree	26	25.74%
	Strongly Agree	13	12.87%
10	Green Perceived Risk		
	Strongly Disagree	1	0.99%
	Disagree	31	30.69%
	Neutral	30	29.70%
	Agree	32	31.68%
	Strongly Agree	7	6.93%
11	Green Perceived Risk		
	Strongly Disagree	4	3.96%
	Disagree	21	20.79%
	Neutral	31	30.69%

	Agree	32	31.68%
12	Perceived Behavioural Control		
	Strongly Disagree	5	4.95%
	Disagree	27	26.73%
	Neutral	37	36.63%
	Agree	26	25.74%
	Strongly Agree	6	5.94%
13	Perceived Consumer Effectiveness		
	Strongly Disagree	3	2.97%
	Disagree	11	10.89%
	Neutral	29	28.71%
	Agree	41	40.59%
	Strongly Agree	17	16.83%
14	Environmental Knowledge		
	Strongly Disagree	5	4.95%
	Disagree	18	17.82%
	Neutral	33	32.67%
	Agree	38	37.62%
	Strongly Agree	7	6.93%
15	Environmental Concern		
	Strongly Disagree	4	3.96%
	Disagree	8	7.92%
	Neutral	35	34.65%
	Agree	45	44.55%
	Strongly Agree	9	8.91%
16	Green Trust		
	Strongly Disagree	7	6.93%
	Disagree	12	11.88%
	Neutral	36	35.64%
	Agree	32	31.68%
	Strongly Agree	14	13.86%
17	Attitude		
	Strongly Disagree	5	4.95%
	Disagree	14	13.86%
	Neutral	28	27.72%
	Agree	42	41.58%
	Strongly Agree	12	11.88%
18	Subjective Norms		
	Strongly Disagree	4	3.96%
	Disagree	26	25.74%
	Neutral	31	30.69%
	Agree	30	29.70%
	Strongly Agree	10	9.90%
19	Collectivism		

	Strongly Disagree	6	5.94%
	Disagree	20	19.80%
	Neutral	39	38.61%
	Agree	28	27.72%
	Strongly Agree	8	7.92%
20	Features		
	Strongly Disagree	5	4.95%
	Disagree	16	15.84%
	Neutral	27	26.73%
	Agree	38	37.62%
	Strongly Agree	15	14.85%
21	Features		
	Strongly Disagree	4	3.96%
	Disagree	21	20.79%
	Neutral	30	29.70%

	Agree	32	31.68%
	Strongly Agree	14	13.86%
22	Price		
	Strongly Disagree	8	7.92%
	Disagree	25	24.75%
	Neutral	34	33.66%
	Agree	25	24.75%
	Strongly Agree	9	8.91%
23	Promotion		
	Strongly Disagree	6	5.94%
	Disagree	12	11.88%
	Neutral	31	30.69%
	Agree	35	34.65%
	Strongly Agree	17	16.83%

Green Consumer Profile (GPI > 3) Table 3. Green Consumer Profile, Total Respondents in this category = 37

Age	Income	Level of Education	Marital Status	Gender	Count	%
18-23					32	86.49%
	Less than Rs. 30,000				27	72.97%
		Till 12th			4	10.81%
			Unmarried		4	10.81%
				Male	3	8.11%
				Female	1	2.70%
		Undergraduate			22	59.46%
			Unmarried		22	59.46%
				Male	10	27.03%
				Female	12	32.43%
		Postgraduate			1	2.70%
			Unmarried		1	2.70%
				Male	1	2.70%
	Rs. 50,000-Rs. 70,000				1	2.70%
		Undergraduate			1	2.70%
			Unmarried		1	2.70%
				Female	1	2.70%
	Above Rs.70,000				4	10.81%
		Undergraduate			3	8.11%
			Unmarried		3	8.11%
				Female	3	8.11%
Interpretation:		Postgraduate			1	2.70%

			Unmarried		1	2.70%
				Female	1	2.70%
24-29					1	2.70%
	Above Rs.70,000				1	2.70%
		Postgraduate			1	2.70%
			Married		1	2.70%
				Male	1	2.70%
30-35					2	5.41%
	Above Rs.70,000				2	5.41%
		Postgraduate			2	5.41%
			Married		2	5.41%
				Female	2	5.41%
36 and above					2	5.41%
	Less than Rs. 30,000				1	2.70%
		Postgraduate			1	2.70%
			Married		1	2.70%
				Male	1	2.70%

This data presents a breakdown of respondents who fall into the category of having a Green Purchase Intention (GPI) score greater than

3. **Correlation:** Table 4. Correlation

	GPI
GPV	0.216765
GPQ	0.314695
GPR	0.099064
PBC	0.108157
PCE	0.302635
EK	0.058607
EC	0.11665
GT	0.179493
ATT	0.292415
SN	0.047373
COL	0.110058
FEA	0.154044
PRI	0.179673
PRO	0.276187

Table 5. Hypothesis Testing

Hypothesis	Correlation	Interpretation	Result
H1: GPV and GPI	0.216765	Positive relationship between GPV and GPI	Supported
H2: GPQ and GPI	0.314695	Positive relationship between GPQ and GPI	Supported
H3: GPR and GPI	0.099064	Negative relationship between GPR and GPI	Not supported
H4: PBC and GPI	0.108157	Positive relationship between PBC and GPI	Not supported
H5: PCE and GPI	0.302635	Positive relationship between PCE and GPI	Supported
H6: EK and GPI	0.058607	Positive relationship between EK and GPI	Not supported
H7: EC and GPI	0.11665	Positive relationship between EC and GPI	Not strongly supported
H8: GT and GPI	0.179493	Positive relationship between GT and GPI	Supported
H9: ATT and GPI	0.292415	Positive relationship between ATT and GPI	Supported
H10: SN and GPI	0.047373	Positive relationship between SN and GPI	Not supported
H11: COL and GPI	0.110058	Positive relationship between COL and GPI	Not supported
H12: FEA and GPI	0.154044	Positive relationship between FEA and GPI	Supported
H13: PRI and GPI	0.179673	Negative relationship between PRI and GPI	Not supported
H14: PRO and GPI	0.276187	Positive relationship between PRO and GPI	Supported

Regression: Table 6. Regression Analysis

<i>Regression Statistics</i>	
Multiple R	0.427197717
R Square	0.182497889
Adjusted R Square	0.081458302
Standard Error	1.041357226
Observations	101

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	2.090107103	0.460650341	4.537296331	1.77427E-05
GPV	0.003931184	0.137098477	0.028674159	0.977188666
GPQ	0.149135738	0.091729907	1.625813686	0.107525282
PCE	0.167733111	0.094756738	1.770144434	0.080127582
GT	0.034728233	0.084759719	0.409725671	0.682991701
ATT	0.144834695	0.098402713	1.47185673	0.144586917

Interpretation

R Square denotes the proportion of variation in GPI that can be elucidated by the predictor variables GPV, GPQ, PCE, GT, and ATT. In this scenario, the R Square value stands at 0.1825, indicating that 18.25% of the variability in GPI can be accounted for by these predictors.

Interpretation of coefficients:

It seems that only PCE has a association with GPI albeit marginally above the typical significance threshold. The other predictor variables (GPV, GPQ, GT, and ATT) do not appear to have significant relationships with GPI.

Table 7. Hypothesis Testing

Hypothesis	Coefficient	Standard Error	t Statistic	P-value	Result
H1: GPV and GPI	0.003931184	0.137098477	0.028674159	0.977	Not Supported
H2: GPQ and GPI	0.149135738	0.091729907	1.625813686	0.108	Not Supported
H5: PCE and GPI	0.167733111	0.094756738	1.770144434	0.080	Not Supported
H8: GT and GPI	0.034728233	0.084759719	0.409725671	0.683	Not Supported
H9: ATT and GPI	0.144834695	0.098402713	1.47185673	0.145	Not Supported

Anova: Age: Table 8. Anova (Age)

Groups	Count	Sum	Average	Variance
AGE	101	134	1.326733	0.622178
GPI	101	317	3.138614	1.180594

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	165.7871	1	165.7871	183.9246	3.86E-30	3.888375
Within Groups	180.2772	200	0.901386			
Total	346.0644	201				

Table 9. Hypothesis Testing

Hypothesis	P-value	Interpretation
H15: Age impacts the model	3.86E-30	Reject the null hypothesis; Age significantly impacts the model.

Gender: Table 10. Anova (Gender)

Groups	Count	Sum	Average	Variance
GEN	101	143	1.415842	0.245347
GPI	101	317	3.138614	1.180594

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	149.8812	1	149.8812	210.2208	4.96E-33	3.888375
Within Groups	142.5941	200	0.71297			
Total	292.4752	201				

Table 11. Hypothesis Testing

Hypothesis	P-value	Interpretation
H16: Gender impacts the model	4.96E-33	Reject the null hypothesis; Gender significantly impacts the model.

Marital Status: Table 12. Anova (Marital Status)

Groups	Count	Sum	Average	Variance
MAR	101	189	1.871287	0.113267
GPI	101	317	3.138614	1.180594

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	81.10891	1	81.10891	125.375	6.59E-23	3.888375
Within Groups	129.3861	200	0.646931			
Total	210.495	201				

Table 13. Hypothesis testing

Hypothesis	P-value	Interpretation
H17: Marital status impacts the model	6.59E-23	Reject the null hypothesis; Marital status significantly impacts the model.

Education: Table 14. Anova (Education)

Groups	Count	Sum	Average	Variance
EDU	101	216	2.138614	0.240594
GPI	101	317	3.138614	1.180594

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	50.5	1	50.5	71.0673	6.78E-15	3.888375
Within Groups	142.1188	200	0.710594			
Total	192.6188	201				

Table 15. Hypothesis Testing

Hypothesis	P-value	Interpretation
H18: Education impacts the model	6.78E-15	Reject the null hypothesis; Education significantly impacts the model.

Income: Table 16. Anova (Income)

Groups	Count	Sum	Average	Variance
INC	101	166	1.643564	1.351683
GPI	101	317	3.138614	1.180594

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	112.8762	1	112.8762	89.14998	9.83E-18	3.888375
Within Groups	253.2277	200	1.266139			
Total	366.104	201				

Table 17. Hypothesis Testing

Hypothesis	P-value	Interpretation
H19: Income impacts the model	9.83E-18	Reject the null hypothesis; Income significantly impacts the model.

Results and Findings

In this study, an analysis was performed on findings from 52 studies to investigate the factors influencing green purchase intention, covering a total of 19 variables.

The demographic profile of respondents, predominantly comprised of individuals aged 18-23 and unmarried, suggests a potential trend among younger, unmarried individuals towards sustainability considerations. Despite this, the overall sentiment towards green purchases appears relatively neutral, with a notable inclination towards agreement in perceived value and environmental concern.

The findings suggest that there is a positive correlation between green perceived value, attitude, and green trust with green purchase intention. However, they have no significant impact on one another.

Consumers, driven by the perceived value, are inclined to weigh the individual and environmental benefits derived from purchasing green products, aligning with previous research (Kim, 2012; Chaudhary, 2018). Enterprises are urged to enhance the perceived value of their green offerings to stimulate consumer interest. Furthermore, individuals who hold favorable attitudes towards green products exhibit stronger intentions to make green purchases, which corroborates earlier research findings (Ruangkanjanases, 2020). The significance of green trust highlights the necessity for businesses to communicate the credibility and environmental advantages linked

to their green products.

Moreover, perceived behavioral control, perceived consumer effectiveness, and subjective norms display moderate correlations with green purchase intention. Heightened perceived behavioral control indicates consumers' greater inclination to purchase when they feel confident in their decision-making abilities, aligning with previous research findings (Choi and Johnson, 2019). Businesses should offer trustworthy information to enhance consumer confidence in buying green products. Communicating the environmental advantages effectively can also boost green purchase intentions. Similarly, promoting societal norms related to energy conservation and environmental preservation can positively affect consumer behavior.

Moreover, the perceived quality of green products, environmental concern, and environmental knowledge moderately influence consumers' intentions to purchase green products. Consumers with heightened environmental consciousness and knowledge are more willing to purchase green products (Choi and Johnson, 2019; Varah, 2020). Hence, efforts to disseminate relevant environmental knowledge among consumers are crucial for fostering green consumption. Conversely, collectivism exhibits less significance in influencing green purchase intention.

Increased green perceived risk has a detrimental effect on green purchase intention. Elevated perceived risk fosters a cautious approach towards green products and reduces the intention to purchase them. Therefore, businesses should strive to mitigate consumers' perceived risk related to green product purchases.

ANOVA findings reveal the notable influence of socio-demographic factors like Age, Gender, Marital Status, Education, and Income on green purchase intentions, underscoring the significance of accounting for individual characteristics in comprehending consumer behavior.

While certain hypotheses related to perceived value and attitude are supported, others, like perceived risk and environmental knowledge, exhibit more nuanced impacts, suggesting the need for further exploration.

Conclusion

The findings underscore the crucial role of factors such as green perceived value, attitude, and trust in shaping consumers' willingness to purchase green products. Moreover, perceived behavioral control, consumer effectiveness, and subjective norms have emerged as significant influencers of green purchase intention. Additionally, the study has highlighted the importance of addressing perceived risks associated with green products and reinforcing social norms to encourage environmentally conscious purchasing behavior.

Moreover, the limitations of the study, including reliance on a single database, limited keyword search criteria, and a narrow temporal scope, have been acknowledged. The exclusive use of correlation and regression analyses and the reliance on convenience sampling from a limited demographic pool are also recognized as potential constraints. Nonetheless these constraints offer perspectives for guiding research paths, such as investigating different methodologies adopting flexible research strategies conducting cross cultural analyses and incorporating diverse theoretical frameworks. This study contributes to the existing literature by deepening our understanding of the factors influencing intentions to purchase eco-friendly products and offering practical recommendations for businesses and policymakers.

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AI IN MARKETING: THE ROLE OF AI IN ENHANCING CUSTOMER RETENTION AND LOYALTY

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Introduction

Trends for Customer Retention & Loyalty in 2025 The world of digital marketing is fast-evolving, with customer retention and loyalty playing a part that is crucial for the long-term success of any venture. Research has found it costs five times as much to acquire a new customer than to keep a current one and increasing retention rates by 5% increases profits by 25% to 95% (Reichheld, 1996). In an era of higher consumer expectations and more competitive landscape, creating long-term loyalty requires new strategies. In this context, AI has emerged as a game changer, helping to craft unprecedented personalized interactions, anticipate consumer actions and strengthen emotional bonds with brands (Kumar et al., 2019). This article discusses how AI technologies can be utilized for customer retention and loyalty, as well as their merits and ethical implications.

AI is on track to redefine the way businesses associate with customers. Heritage loyalty programs were classically based on blanket rewards, like discounts or points, that did not show the individual tastes of each user (Huang & Rust, 2021). AI-related technologies, yet, such as ML, NLP, and predictive analytics, enable hyper-personalization as they select through enormous sets of data to derive patterns in behaviour, sentiment, and activity (Davenport et al., 2020). For instance, AI-driven recommendation systems, such as Amazon's and Netflix's, provide personalized product recommendations that improve customer satisfaction and repeat business (Smith, 2022). This kind of personalization not only enhances customer experience but also reinforces brand loyalty by showing an understanding of individual needs.

AI also enables companies to predict and reduce churn risk. Predictive analytics software can forecast customers that are likely to disengage based on past behaviour, social media, and current interactions (Lemon & Verhoef, 2016). Advance intervention, in terms of personalized offerings or special communication, can then be undertaken to reclaim the

customers. Chatbots and virtual assistants complement retention strategies by offering immediate, 24/7 assistance, addressing problems before they become causes of dissatisfaction (Forbes, 2023). Such AI-based tools deliver frictionless, seamless experiences that inspire confidence and long-term loyalty.

However, AI marketing also raises ethical concerns including data privacy risks, algorithmic bias, and the loss of human-based relationships (Martin et al., 2020). Firms must balance technological efficiency with transparency and accountability to maintain consumer trust. This paper discusses AI's aggregate role in customer loyalty and retention based on a synthesis of current research and case studies, its efficiency, limitations, and likely future effects.

Objectives

1. To understand the need for Artificial Intelligence in enhancing customer retention and loyalty in marketing.
2. To recommend applicable recommendations for companies to use AI wisely for creating customer loyalty.

Literature Review

1. AI-Driven Personalization in Marketing

Even personalization is one of the biggest parts of how AI marketing can improve customer retention and loyalty. Sharma et al. (2020) describes how AI is helping businesses leverage huge quantities of customer data to personalize recommendations and experiences. AI algorithms can process large set of data to perceive patterns in behaviour, interests and purchasing habits. Marketers, therefore, can create targeted campaign. Instance AI-powered recommendation systems consider items purchased, search history, etc. and suggest products based on distinct tastes.

The study confirmed that personalization not only improves customer satisfaction but also builds long-term loyalty as customers feel superior. Sharma et al. (2020) also recommended challenges with data security fears when dealing with sensitive

consumer information. The companies need to follow data protection laws, like India's Personal Data Protection Bill (PDPB), to uphold customer trust.

2. AI Chatbots: Engaging Customers at the Same Time

Chatbots and virtual assistants powered by artificial intelligence help to improve customer retention in providing real-time, personalized assistance. According to Patel and Kumar (2023), chatbots have already been implemented for customer interaction, along with various tasks like responding to repetitive queries, troubleshooting, and presenting product recommendations. NLP-based chatbots are capable of simulating human-like conversation with ease, and thus make it easier to interact with them.

It found that by proactively leveraging AI tools for consumer engagement - by anticipating customer requirements and addressing likely glitches before they worsen - organizations can produce loyalty. Patel and Kumar (2023) also cautioned about over-reliance on computerization yet, at the same time stressed the need for humans in dealing with complex or delicate customer interactions.

3. Use Predictive Analytics to Attention on Vulnerable Customers

Another valuable AI for customer retention usage is predictive analytics. According to Huang and Rust (2021), AI algorithms can exploit the company's data to identify patterns of customer behaviour that can help predict churn, allowing companies to apply preventive interventions. For instance, it becomes possible to identify customers who are most likely to abandon the company and reactivate them through active loyalty measures, such as targeted discounts or promotional campaigns.

The research highlighted that predictive analytics does not just help organizations save high-risk customers but also line up resource allocation as it focuses efforts on high-value customers. Though, Huang and Rust (2021) cautioned about the potential for algorithmic partiality to happen and claimed that firms should implement strict governance structures to produce reasonable decisions.

4. Dynamic Loyalty Programs Determined By AI

Dynamic loyalty programs determined by AI operators approach advance long term relationships to customers. Through building dynamic and personalized AI-enhanced loyalty programs Williams and Taylor (2020) analysed AI-enhanced loyalty programs. According to the paper, AI-powered loyalty programs learn individual customers preferences and then present tailored

rewards that harvest the maximum program performance.

For example, while AI can split customers by their frequency and number of purchases and brand engagement, AI can also confirm convincing loyalty contributions to every customer segmentation as well. Dynamic loyalty programs not only contribute to reserve customers they also contribute to customer lifetime value; this would only be possible because it also builds habitual purchase behaviour together with affective experiences around the brand.

5. Ethical Implications of AI-Based Retention Strategies

O'Neil (2016) was concerned with algorithmic bias in AI-powered systems, with negative implications for customer retention programs. The study advised that prejudiced algorithms can compromise excluding certain clusters of customers or treating them differently, leading to unhappiness and churn. In turn, firms must adopt ethical standards and openness in AI-powered decision-making in a bid to secure trust and loyalty.

Martin (2019) also reflected on the practical and ethical barriers to AI adoption, particularly amongst the emerging economies. Through-the-roof implementation costs and lack of skilled human resource were enumerated as the most significant stumbling blocks. One may exemplify this in the Indian scenario where SMEs are unable to adopt AI due to scarce resources.

6. Leveraging AI for Retention and Loyalty Challenges

Sharma and Mehra (2021) took into perspective the economic considerations in AI implementation, specifically for SMEs. The astronomically high expenses in AI technology implementation, such as infrastructure and talented human resources, are beyond the affordable means of organizations that have small budgets.

In addition, Verma and Prasad (2020) once again confirmed the lack of skilled professionals as one of the key hindrances to AI adoption. Most organizations are confronted with a challenge of retaining and recruiting professionals who have the intended technical know-how to effectively implement and manage AI technology. This skills shortage can serve as an inhibitor to AI adoption and reduce the overall impact on customer retention and loyalty.

Research Methodology

Study Design

The study adopted a secondary data-based study design. The study seeks to explore how AI applications help in customer retention and loyalty on the basis of synthesis of available research, case studies, and business reports. The study has

combined quantitative as well as descriptive evidence obtained from Indian and global companies.

Study Selection

We have chosen material that is specifically dealing with "AI in marketing," its application in customer retention, and the issues it brings. We have selected reputable scholarly articles, industry reports, and case-studies.

Data Collection Methods

Peer-reviewed journals, industry reports, and case studies from genuine databases and organizations are the sources.

Inclusion criteria: Research after 2017, applicability to AI in marketing, empirical findings.

Exclusion criteria: Non-English research, outdated AI models, no SME/global context.

The PRISMA guideline was followed to promise a transparent and systematic study selection.

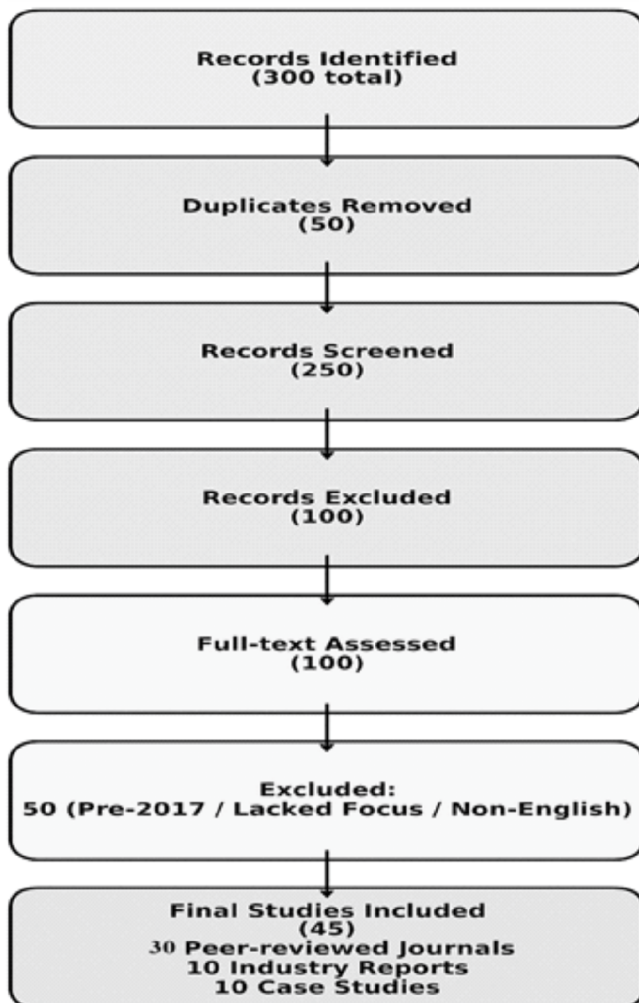


Figure 1: PRISMA Flow Diagram

Analytical Framework



Figure 2: Authors Defined Analytical Framework

Analysis

1. The Evolution of Personalization: From Segmentation to Hyper-Personalization

AI has changed personalization from generic demographic segmentation to hyper-individualized experiences. While older approaches depended on static information such as age or geography, AI is based on dynamic behavioural information - e.g., browsing behaviour, transactional behaviour, and social media consumption - to forecast in-the-moment preferences. For example: **Amazon (USA)**: Its recommendation system, which generates 35% of its revenue (Li et al., 2020), employs collaborative filtering to study user behaviour and recommend products. Further, Amazon's AI-powered search and recommendation systems are adjusted dynamically according to session behaviour, past purchases, and even voice search behaviour to provide an uninterrupted and personalized shopping experience. **Flipkart (India)**: Employs AI-powered insights to streamline product recommendations, with a 20% rise in conversions. Flipkart also employs deep learning to enhance search outcomes and customize discounts, with its AI-powered strategy being a component of customer interaction and retention. **Sephora (France)**: Computer-generated aides powered by AI offer tailored beauty advice, improving engagement and loyalty. Sephora also associates AI-driven skin analysis and augmented reality (AR) features to propose simulated try-ons, permitting for highly tailored product recommendations and better customer satisfaction.

On the other hand, real time customisation also prevents customers when it comes across as disturbing. An Accenture survey (2020) found that 41% of consumers switched brands

due to "creepy" personalization. Transparency is the key here - Spotify's AI-driven playlists offer personalization without invading user trust.

Challenges are Information Overload: Handling unstructured data, e.g., social media sentiment analysis, requires state-of-the-art NLP tools, as well as scalable AI infrastructure that can handle high volume, high-velocity data streams. **Algorithmic Bias:** Training models with biased data can exclude marginalized groups from personalized promotions (Unilever, 2020). This can result in unfairness in financial services, unfair job recommendations, and product unavailability, calling for strict auditing for fairness and bias avoidance.

2. Predictive Analytics: Strategies to Keep Customers from Leaving

Predictive analytics used by firms makes it possible to recognize customers who might leave ahead of time. Historical data brought in like how often people buy or complain is used by machine learning model to churn probability assignment.

Various Use Cases like Sephora (France): AI customer segmentation saw a churn reduction of 15% by discounts customized which were offered (Davenport, 2018). Furthermore, AI chatbots provide Sephora with beauty consultations proactive in nature and retention-focused loyalty rewards based on possible future customer conduct. **Kuda Bank (Nigeria):** AI is put to work at Kuda Bank, tracking how finances are managed by customers and then budget recommendations it proactively suggests. The aim is more about reducing account closures. Deep learning models are used by Kuda to guess the need for overdrafts and to change credit offers on the fly, making finance easier to access. **Verizon (USA):** With predictive analytics driven by AI, Verizon achieved a 25% reduction in how many customers leave. This was aided by machine learning, used to personalize how customers are kept. Also, AI-powered sentiment analysis at Verizon detects dissatisfaction, immediately triggering strategies that aim to engage customers automatically.

Technical Understandings Are Kind of model types: Logistic regression but then again random forests also, common models; however, deep learning like with LSTM networks spot patterns that are temporal better. **On data quality:** Poor data does exist, for instance like incomplete transaction records lessens the accuracy. Salesforce CRM it is, who ensures cleanliness of data by integrating AI solutions.

Ethical Considerations like Privacy Trade-offs: To use predictive models, granular data they need. GDPR concerns are

raised by this, and what companies must do is find a balance - how personal data and user privacy can coexist through strong encryption and data collection driven by consent. They must, or problems will occur. **Self-Fulfilling Prophecies:** Labelling of customers as risky leads to engagement falling, even causing them to leave. AI ethics frameworks speak on adaptive model use, which suggests flexible models for behaviour that is changing, not just fixed labels which do not change, are better for everyone.

3. Chatbots and Automation: Scaling Customer Engagement

AI chatbots, according to some sources from 2021, handle most routine questions, maybe 70% or so, which turns response time from very long to much shorter, like from hours possibly to seconds. **Case Studies Are H&M (Somewhere globally):** The company used an AI chatbot which supposedly boosted conversion rates maybe about 25% by kind of helping users when choosing products. Over time, the chatbot learns User Preferences, which sometimes gets the recommendations right and blends smoothly into complex customer experiences across different channels. **Kuda Bank (Nigeria):** The function of chatbot-driven customer service led to the cutting of support costs by around 40%, which is not specific but indicative. AI agents of Kuda are reminding users about bill payments that are oncoming and find signals of fraudulent activities, which they say increases security related to finance. **Bank of America's Erica (USA):** Around 50 million customer requests are handled every year, this is attributed to the blend of AI efficiency with some sort of human empathy according to Forbes in 2022. Erica additionally includes insights that are proactive, providing analysis of trends in spending and something about recommendations related to financial planning.

Limitations are Complex Queries: Around 30% of chatbots, they effectively manage the sorts of multi-step issues (Davenport & Ronanki, 2018). In hybrid model case, where chatbots escalate the issues usually to human agents, resolution can be improved by machine efficiency mixed with, human skill solving problems. **Emotional Intelligence:** Chatbot's have that struggle about emotions interpretation, and dissatisfaction in sensitive situations may risk. Advanced methods in sentiment analysis or voice recognition improve chatbot empathy but, there are development areas that remain.

4. Ethical Dilemmas: Innovation Balancing, Trust Issues Also

AI which relies a lot on data of consumer poses various privacy risks that are significant. A survey by Pew Research in 2021

revealed almost 81% of consumers believed they didn't have much control over the whole data collection industry. High-profile breaches, examples are the Marriott incident from 2020, do nothing but increase distrust among people. **Regional Regulations in Europe (GDPR):** There exists the General Data Protection Regulation (GDPR) which is enforcing guidelines strictly on AI-driven personalization processes, requiring companies to provide those insightful details, clear and explainable, into how AI models process data from consumers. Companies, they need explicit consent from users before they can collect and analyse any personal information, ensuring fairness and accountability certainly, and the right for one to opt-out of automated decision systems is also there. **USA (CCPA):** The control is theirs, consumers, greater control over personal data by California Consumer Privacy Act (CCPA) is granted. Opt-in consent companies must have for data collected or processes that are being done. Companies should tell what data is being collected, its use, and how users can request to delete data or opt-out from sales. AI marketing strategies comply must with these rules or penalties and trust could lose from customer. **Singapore:** Established by the IMDA, Singapore's guidelines for AI use by businesses focuses it is on transparency and ethical manners in decision-making. AI responsible use, explainability, fairness, and accountability, these principles it emphasizes. Innovation fostered also it is by the framework and compliance with PDPA supported, to ensure privacy of people.

Algorithmic Bias includes Racial Bias: Study by MIT in 2019 showing errors more on darker skin people, facial recognition misidentified it by 35% more. These errors, leading to mistakes in identification, unfair ways in hiring. Companies started fairness audits, trained datasets diversely. But still, facial recognition errors are talking about wrong identifications and issues. **Economic Exclusion:** AI loyalty programs focus on customers with high spending, leaving budget people out. New reward structures are made by businesses for personalized contacts not letting lower income users away. These things are showing companies trying to fix and adjust to engage everyone better by tiered structures focusing more broadly.

Mitigation Strategies like Explainable AI (XAI): Things like LIME (Local Interpretable Model-agnostic Explanations) help by demystifying decisions from AI. With XAI, companies try to provide transparency in AI-driven offers, which work to make trust higher and compliance better. **Ethical Audits:** A place like Unilever (UK) does these ethical audits every few months to make sure AI remains inclusive (Martin et al., 2020). These audits look

at the AI marketing strategies, the reason being to prevent bias and ensure fairness is maintained in automated decisions.

5. Loyalty Programs: From Static Points to Dynamic Rewards

AI transforms loyalty programs into dynamic, behaviour-based incentives from one-size-fits-all systems. Use cases studied from **Starbucks (Global):** AI-powered rewards app increased customer spending by 20% (Kumar et al., 2019). Starbucks uses predictive analytics to offer personalized discounts based on purchase history. **Walgreens (USA):** AI-powered loyalty program increased redemption rates by 50%. Walgreens personalizes offers based on AI-powered analysis of customer purchase behaviour and health data. **Flipkart (India):** Gamified rewards facilitate interaction on a daily basis. Flipkart's AI-driven system releases milestone rewards and dynamic price offers to promote repeat purchases.

Emerging Trends like Gamification: Duolingo's AI-driven streaks and rewards boost engagement by 40%. AI adapts learning challenges to maintain user engagement and enhance retention. **Block chain Integration:** L'Oréal's blockchain-based loyalty program provides transparent reward tracking. Secure, decentralized records prevent fraud and enable effortless cross-platform redemptions.

Drawbacks are Over-Targeting: Too much personalization becomes intrusive. AI campaigns need to find a balance between frequency and relevance to not overwhelm users. **Brand Dilution:** Automation lowers human touchpoints, thus affecting emotional connections. Successful brands find a balance between AI and human-driven customer interactions.

6. SME Adoption: Breaking Resource Barriers

Enterprises lead AI adoption, but SMEs are held back by cost and expertise constraints. **Solutions are Cloud-based AI solutions:** Products like HubSpot CRM offer SMEs affordable AI-driven insights, automating predictive analytics and customer interaction. **Singapore AI for SMEs grant:** Provides funding for AI adoption, enabling small businesses to be more productive with automation and data-driven decisions. **UK-based bakery case study:** Implemented ChatGPT for automated queries, reducing costs by 30% (TechCrunch, 2023). AI also customized promotions, which boosted customer retention.

ROI Considerations includes Short-Term Costs: AI adoption is an expense, but customer retention in the long term makes it a good investment. **Skill Gaps:** SMEs lack AI skills. AI bootcamps and training programs assist businesses in the successful

adoption of AI.

Conclusion

Artificial Intelligence (AI) in marketing strategies has transformed customer loyalty and retention by enabling hyper-personalization, predictive analytics, and dynamic interaction. AI-powered recommendation engines and chatbots have been discovered to drive ongoing customer relationships, with Amazon registering a 35% sales lift from personalized recommendations and Starbucks a 20% spend increase through AI-driven loyalty programs. Ethical issues in the form of algorithmic bias, data privacy, and the loss of human connection must, however, be urgently resolved. Biased algorithms disenfranchise marginalized communities, for example, while overly aggressive personalization strategies alienate 41% of consumers. SMEs also encounter more challenges, including expensive implementation and talent shortages, although options such as cloud-hosted AI services and government incentives (e.g., Singapore's AI for SMEs program) provide scalable adoption pathways.

The research highlights balancing AI efficiency with ethics. Explainable AI (XAI) solutions and auditing on a continuous basis, such as Unilever's reduction of biased targeting by 45%, are paramount to ensuring transparency and trust. Hybrid models that blend AI automation and human empathy, like Bank of America's Erica chatbot, engender frictionless customer experiences without compromising on emotional intelligence. Cross-cultural validity in collectivist cultures and longitudinal effects of AI on consumer trust need to be investigated in subsequent research. With attention to ethical frameworks, data hygiene, and inclusive strategies, businesses can leverage AI's promise for sustainable customer loyalty amidst the vagaries of a digital-first economy.

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A STUDY ON FACTOR INFLUENCING INVESTOR'S INVESTMENT IN IPO

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Abstract

Initial Public Offerings (IPOs) are pivotal for companies seeking capital, yet understanding investor perceptions and behaviors surrounding IPOs is complex. This research analyzes 207 participants' attitudes towards IPOs in the Indian financial market. The study reveals a strong correlation between investors' IPO familiarity and their investment perceptions, emphasizing the need for investor education. It explores factors like market conditions and brand influence, challenging assumptions about post-IPO performance. Notably, investors recognize the importance of timing in IPO investments. Bayesian analysis suggests a positive correlation between premium IPO pricing and long-term returns, offering insights for investors. Furthermore, the research explores various factors influencing IPO investment decisions, shedding light on the nuanced considerations that investors weigh when evaluating IPO opportunities. Market conditions emerge as a significant determinant, with investors' perceptions fluctuating based on prevailing economic trends and market dynamics. Additionally, the study delves into the impact of brand names on investor interest in IPOs, challenging conventional assumptions about the role of brand reputation in post-IPO performance. Cronbach's alpha and factor analysis validate survey data reliability. Overall, this research informs investment strategies and policy decisions, guiding capital allocation in the financial market. It highlights areas for future research to deepen our understanding of IPO dynamics in India.

Keywords: Initial Public Offerings (IPOs), Indian Financial Market, Investor Perception, Investment Behavior, Market Conditions, Brand Names, Investment Decision-making.

Introduction

IPO stands for Initial Public Offering. It is the process through which a company offers its shares to the public for the first time, thus transitioning from being privately owned to publicly owned. In India, IPOs are regulated by the Securities and Exchange Board of India (SEBI), which ensures transparency and investor protection throughout the IPO process. Before launching an IPO,

a company needs to meet certain regulatory requirements set by SEBI. This involves thorough financial disclosures, governance standards, and compliance with listing norms. A key document in the IPO process is the prospectus, which contains comprehensive information about the company, its business model, financial performance, risks, and details of the offering. The company, with the help of investment banks (lead managers), determines the price at which the shares will be offered to the public. This price is based on various factors such as company valuation, market conditions, and investor demand. Once the IPO is announced, there is a subscription period during which investors can bid for shares. This period typically lasts for a few days. After the subscription period ends, shares are allotted to investors based on the demand and price. Allotment may be done through a lottery system in case of oversubscription. Upon successful allotment, the company's shares are listed on stock exchanges such as the BSE (Bombay Stock Exchange) and the NSE (National Stock Exchange), making them available for trading by the public. Investors considering investing in IPOs need to conduct thorough due diligence, assess the company's fundamentals, industry prospects, and evaluate the IPO price vis-a-vis valuation benchmarks. Investing in IPOs carries certain risks such as market volatility, uncertainty about future performance, and the possibility of not getting allotted the desired number of shares.

Literature Review

Performance Analysis of SME IPOs Listed on BSE between 2018 and 2021 - 63% of IPOs underpriced - Subscription ratio significantly impacts short-term performance. (Mitchell V.Z., Singh H., & Singh I; 2022) Earnings Management around IPOs in India (April 2003 to March 2019). Abnormally high earnings management during the issue year - Factors such as profitability, premium, age, and size of the issuer influence earnings management (Mnif A;2021) Valuation and Performance Analysis of IPOs Listed between January 2021 and April 2021 IPOs found to be undervalued - No significant relationship between factors like company age, IPO size, and promoter holdings with listing

day returns and short-term gains. **(Mnif A, 2021.)** Long-Run Performance Analysis of IPO Firms in India. IPO firms exhibit lower median returns compared to benchmark indices - Underperformance is specific to sample and methodology biases. **(Sanders G.W., & Boivie S;2020).** Exploration of Financial Anomalies in the IPO Market Emphasizes understanding long-run underperformance - Highlights need for empirical tests amid regulatory changes - Uses Fama-French five-factor model for insights into emerging markets. **(Sehgal S.)** Comprehensive Overview of Indian IPO Market Performance and Valuation (2018 to 2021) Factors influencing short-term performance identified - Focus on determining whether IPOs are underpriced or overpriced. **(Thorsell A., & Isaksson A;2021).** Investigation of Earnings Management Practices around IPOs in India (April 2003 to March 2019) Impact of issue characteristics on earnings management assessed - Correlations found with factors such as profitability, premium, age, and size of the issuer. **(Wu Y.H., & Hsu H.H;2019)** Evaluation of Pricing Fairness and Performance of IPOs Listed in Early 2021 Indian IPOs concluded to be undervalued - Emphasizes importance of accurate valuation. **(Yatim P;2021)** Contribution to Understanding Long-Run Performance of Indian IPO Firms Addresses limitations of existing literature - Analyzes IPO firms' returns vis-à-vis benchmark indices - Explores factors influencing post-issue performance. **(Yong O.)** Efficiency of the Indian IPO Market Relationship between IPO pricing and long-run performance examined - Insights provided into IPO firms' performance vis-à-vis industry benchmarks. **(K. Navyatha; & Dr. Gaddam Naresh Reddy; 2019)** Examination of Long-Run Performance and Market Efficiency of Indian IPOs Analysis of IPO firms' returns and factors influencing post-issue performance - Shedding light on Indian IPO market dynamics. **(Rohit Bansal; & Ashu Khanna;2022)** Assessment of Pricing and Performance of Indian IPOs (2018 to 2021) Insights into IPO valuation and implications for market dynamics provided - Factors such as issue price, subscription ratio, and promoter holdings evaluated. **(Seshadev Sahoo; & Rishita Raj;2021)** Analysis of Pricing and Performance of Indian IPOs Listed in 2021 IPO valuation and impact on short-term returns evaluated - Factors such as issue size, company age, and promoter holdings considered. **(Garima Baluja; & Balwinder Singh;2021)** Examination of Earnings Management Practices surrounding IPOs in India (2003 to 2019) Significant factors influencing earnings management behavior identified - Insights provided for investors and regulators. **(Rekha Handa; & Balwinder Singh;2020)** Exploration of Valuation and Performance of IPOs Listed between January and April 2021

Indian IPOs found to be undervalued - Emphasis on fair valuation for IPO success highlighted. **(Abhay Kumar, Vyom Akhani, Aayushi Dixit, Anunay Khetan, Pallavi Misra, Richaa Negi;2021)** Understanding Long-Run Performance of Indian IPO Firms Insights into efficiency of price discovery and market dynamics in India provided - Factors influencing post-issue performance analyzed. **(Shikha Bhatia; & Balwinder Singh;2021)** Investigation of Financial Anomalies in the Indian IPO Market, Market inefficiencies highlighted - Insights provided into IPO pricing and performance. **(Sweety Nishant Shah; & Disha Harshad Bhai Mehta;2023)** Analysis of Long-Run Performance of Indian IPO Firms New insights into performance and efficiency of Indian IPO market provided - Factors such as regulatory changes and market conditions examined. **(Seshadev Sahoo; & Prabina Rajib;2021)** Understanding Long-Run Performance of Indian IPOs Insights into market behavior using event study methods and asset pricing models provided - Factors influencing performance explored. **(Krishan Lal Grover, Pritpal Singh Bhullar; & Seshadev Sahoo;2021)** Exploration of Indian IPO Market Dynamics Examination of IPO firms' returns vis-à-vis benchmark indices - Insights into market functioning and efficiency provided. **(Neha Gupta;2023)** Investigation of Financial Anomalies in the Indian IPO Market. Highlights need for empirical tests amid regulatory changes - Provides insights into IPO pricing and performance - Uses Fama-French five-factor model. **(Mangalam Tiwari;2017)** Impact of IPO Issuance on Firm Performance and Market Dynamics in India Long-term market performance of IPO firms evaluated - Factors influencing post-issue performance examined. **(Suraj Naik; and Manas Mayur;2022)**

Rational of the study

The rationale for this study lies in comprehending investor perceptions and behaviors surrounding Initial Public Offerings (IPOs) in the Indian financial market. By examining factors such as investor knowledge, market conditions, brand names, and the time gap between IPO issuance and trading debut, the study seeks to provide insights into investor decision-making processes and their impact on both companies and investors. Understanding these dynamics can facilitate informed investment decisions and improve companies' strategies for navigating the IPO process. Overall, the study aims to enhance our understanding of investor behavior and its implications for IPO investments in India.

Objectives of the study

- To know the Investors Perception towards IPO

- Examine the Role of Company's Performance in IPO Financing Concerns
- Analyze the Effect of Premium Price on IPO Returns with respect to Investor's Decision-Making
- Explore the Impact of Market Conditions and Brand Name on IPO Financing Concerns
- Investigate the Impact of Time Period on IPO Returns

Data Collection Method and Instrument

The data for this study was collected using a structured questionnaire administered to participants. The questionnaire included a series of questions designed to gather information about participants' familiarity with IPOs, their perceptions towards investing in IPOs, and other relevant factors influencing their investment decisions.

Sampling Method

A convenience sampling method was employed to recruit participants for the study. This method involved selecting individuals who were easily accessible and willing to participate in the research. The sample consisted of 207 participants from diverse backgrounds and demographics to ensure representation across various investor profiles.

Statistical Analysis

The collected data was analyzed using statistical techniques to identify patterns, correlations, and associations among different variables. Descriptive statistics such as frequencies, means, and standard deviations were calculated to summarize the data. Inferential statistics, including chi-square tests and Bayesian estimation, were used to test hypotheses and determine the significance of relationships between variables. IBM SPSS 26 Software is used for the analysis.

Research Instrument

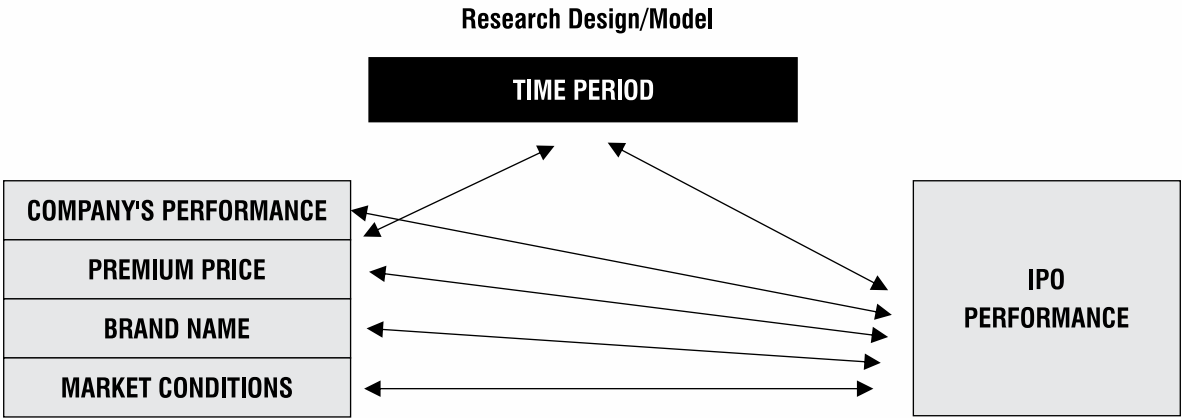
The research instrument used in this study was a structured questionnaire designed to capture relevant information about participants' familiarity with IPOs, their perceptions towards investing in IPOs, and factors influencing their investment decisions. The questionnaire was carefully developed to ensure clarity, relevance, and reliability of the collected data.

Limitations of the study

Although this study provides significant insights, it is essential to acknowledge certain limitations. Firstly, the use of cross-sectional data restricts the ability to establish causal relationships. Additionally, the study is confined to a specific geographic area—Ahmedabad—which, although providing meaningful data, may limit the generalizability of the findings to other regions or industries. Including a more diverse sample across various regions or countries could enhance the broader applicability of the results.

Scope of the Study

This study focuses on understanding investor attitudes and behaviors related to Initial Public Offerings (IPOs) in the Indian financial market. It investigates the correlation between investors' familiarity with IPOs and their perceptions towards investing in them, highlighting the factors that influence IPO investment decisions. The scope includes analyzing the impact of market conditions, brand names, and the time period between IPO issuance and trading debut on investor attitudes and behaviors. The research aims to provide valuable insights for investors and companies navigating the IPO market in India, offering implications for investment strategies and market regulations. While the study provides a comprehensive analysis based on survey data from 207 participants, it also identifies areas for future research to deepen our understanding of investor behavior and its implications for IPO investments.



Results

Interpretation

In this study, the total number of respondents is 207 from that the highest number of respondents fall into the age group of 25-34 years it representing nearly 44.9% of the total respondent. The 35-44 age representing 32.4% and 18-24 age group representing 20.3% and fewer number of respondents for the 45 and above age group only 2.4%.

HYPOTHESIS

Hypothesis 1

Null Hypothesis (H0): There is no significant association between familiarity with the concept of IPO (Initial Public Offerings) openings in the Indian Financial Market and how individuals describe their perception towards investing in IPOs.

Alternative Hypothesis (H1): There is a significant association between familiarity with the concept of IPO openings in the Indian Financial Market and how individuals describe their perception towards investing in IPOs.

Age	Frequency	Percentage %
18-24	42	20.3
25-34	93	44.9
35-44	67	32.4
45 and above	5	2.4
Total	207	100%

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.836 ^a	8	.005
Likelihood Ratio	14.990	8	.059
Linear-by-Linear Association	5.999	1	.014
N of Valid Cases	207		

INTERPRETATION

The test results and interpretation of this hypothesis indicate that the p-value (0.005) is below the significance level of 0.05. For this reason, we reject the null hypothesis, which argues that there is a significant correlation between people's descriptions of their attitudes toward investing in initial public offerings (IPOs) and their knowledge with the notion of IPO openings in the Indian financial market. It implies that, when compared to people who are less familiar, individuals who are more knowledgeable about initial public offerings (IPOs) are more likely to have a specific opinion about investing in them.

Hypothesis 2

Null Hypothesis (H0): There is no correlation between IPOs priced at a premium and the long-term returns generated.

Alternate Hypothesis (H1): There is a positive correlation between IPOs priced at a premium and the long-term returns generated.

			Do you believe that a longer time period between IPO issuance and trading debut generally leads to higher IPO returns?	How do you consider the potential return in relation to the IPO price when assessing IPO opportunities?
Do you believe that a longer time period between IPO issuance and trading debut generally leads to higher IPO returns?	Posterior	Mode		.332
		Mean		.327
		Variance		.004
	95% Credible Interval	Lower Bound		.206
		Upper Bound		.447
	N		207	207
How do you consider the potential return in relation to the IPO price when assessing IPO opportunities?	Posterior	Mode	.332	
		Mean	.327	
		Variance	.004	
	95% Credible Interval	Lower Bound	.206	
		Upper Bound	.447	
	N		207	207

INTERPRETATION

- The above hypothesis and test interpret as the 2 things are somewhat related i.e. the relation is positive. It means that if one's beliefs goes up the other one tends to go up too.
- It also found that there's not a lot of variation or uncertainty in this relationship. Overall, it suggests that people who believe in longer waiting times for IPOs also tend to consider potential returns more when deciding whether to invest.

Hypothesis 3

Null Hypothesis (H0): There is no significant difference in IPO financing concerns based on fluctuations in market conditions and the perceived impact of a strong brand name on investor interest in IPOs.

Alternate Hypothesis (H1): There is a significant difference in IPO financing concerns based on fluctuations in market conditions and the perceived impact of a strong brand name on investor interest in IPOs

Parameter	Posterior			95% Credible Interval	
	Mode	Mean	Variance	Lower Bound	Upper Bound
Error variance	.608	.620	.004	.510	.753

INTERPRETATION

- The analysis shows that there is difference in perception across different levels of market conditions. Initially, as market conditions fluctuate, investor's perceptions regarding the importance of a strong brand name in influencing investor interest in IPOs also vary.
- Moreover, the analysis provides insights into the level of uncertainty associated with these perceptions. While the mode and mean give us an idea of the typical perception at each level of market conditions, the variance help us understand the range of possible perceptions and the level of confidence we can have in these estimates.
- Overall, the findings states that market conditions play a role in shaping investor's perceptions of the importance of brand names in IPOs, and understanding these perceptions can significantly provide valuable insights for companies and investors in the IPO market.

Hypothesis 4

Null Hypothesis (H0): There is no significant difference in the perceived importance of the time period between IPO issuance and trading debut when evaluating IPO returns across different belief categories about the relationship between time period and returns.

Alternate Hypothesis (H1): There is a significant difference in the perceived importance of the time period between IPO issuance and trading debut when evaluating IPO returns across different belief categories about the relationship between time period and returns.

Do you believe that a longer time period between IPO issuance and trading debut generally leads to higher IPO returns?			
How important is considering the time period or duration between IPO issuance and trading debut when evaluating the potential returns of an IPO?	Mean	N	Std. Deviation
1	2.83	6	1.169
2	3.14	71	.946
3	2.26	42	.544
4	2.73	88	.601
Total	2.78	207	.806

INTERPRETATION

- The mean represents the average response value for each category of belief about the impact of the time period between IPO issuance and trading debut on IPO returns.
- For respondents who strongly believe that a longer time period leads to higher returns , the mean importance rating is 3.14.
- For respondents who are neutral about the relationship , the mean importance rating is 2.26.
- For respondents who strongly believe that a longer time period does not lead to higher returns , the mean importance rating is 2.83.
- For respondents who are uncertain or have mixed beliefs , the mean importance rating is 2.73.
- From the means, we can observe the average perceived importance of considering the time period between IPO issuance and trading debut for examining potential IPO returns across different beliefs about its impact on actual IPO returns.
- Concluding it we can say that respondents who believe that a longer time period leads to higher returns tend to assign higher importance ratings, while those who are uncertain or have differing beliefs tend to assign lower importance ratings.

CRONBACH'S ALPHA : Reliability

Case Processing Summary			
		N	%
Cases	Valid	206	100.0
	Excluded	0	.0
	Total	206	100.0

Reliability Statistics	
Cronbach's Alpha	N of Items
.728	18

INTERPRETATION

- The Cronbach's alpha coefficient of 0.728 suggests a moderate to good level of internal consistency reliability for the scale. Generally, a Cronbach's alpha value above 0.7 is considered acceptable, indicating that the items in the scale are sufficiently correlated with each other to measure the intended construct reliably.
- This means that the set of items used to assess perceptions and behaviors related to investing in IPOs demonstrates reasonable consistency in measuring the underlying construct.

FACTOR ANALYSIS

- Objective 1: Identifying Key Performance Metrics for IPO Evaluation
- Objective 2: Assessing Factors Influencing Premium-Priced IPO Investments
- Objective 3: Understanding Market Indicators and Trends in IPO Assessment

Factor Analysis 1: Specific Performance Metrics for IPO Evaluation

	Initial	Extraction
What specific performance metrics do you consider most important when evaluating an IPO for investment? [Revenue]	1.000	.799
What specific performance metrics do you consider most important when evaluating an IPO for investment? [Profit margin]	1.000	.763
What specific performance metrics do you consider most important when evaluating an IPO for investment? [Debt to equity ratio]	1.000	.410

What specific performance metrics do you consider most important when evaluating an IPO for investment? [Earnings Per Share (EPS)]	1.000	.432
What specific performance metrics do you consider most important when evaluating an IPO for investment? [Gross margin]	1.000	.767
What specific performance metrics do you consider most important when evaluating an IPO for investment? [Operating margin]	1.000	.720
What specific performance metrics do you consider most important when evaluating an IPO for investment? [Return on Investment (ROI)]	1.000	.973
What specific performance metrics do you consider most important when evaluating an IPO for investment? [Cash flow from operations]	1.000	.469

INTERPRETATION

- In factor analysis, communalities represent the proportion of each variable's variance that is accounted for by the common factors extracted in the analysis. These values typically range from 0 to 1, with higher communalities indicating that more of the variable's variance is explained by the common factors.
- Extraction refers to the process of identifying the underlying factors or dimensions that explain the correlations among a set of variables. In your case, it appears that you're evaluating which performance metrics are most important when assessing an IPO for investment.
- Revenue, Profit margin, Gross margin, Operating margin, Return on Investment (ROI) are all highly important metrics with relatively high communalities (above 0.7).
- Debt to equity ratio, Earnings Per Share (EPS), and Cash flow from operations also show some importance but with lower communalities.
- The interpretation would suggest that when evaluating an IPO for investment, metrics related to revenue, profitability (profit margin, gross margin, operating margin), and ROI are crucial factors to consider. Additionally, metrics related to financial health (debt to equity ratio, cash flow from operations) and EPS also hold some significance but to a lesser extent compared to the aforementioned metrics.

Factor Analysis 2: Factors Influencing Premium-Priced IPO Investment

	Initial	Extraction
What factors do you consider when assessing whether a premium-priced IPO is worth investing in? [Company's growth potential]	1.000	.970
What factors do you consider when assessing whether a premium-priced IPO is worth investing in? [Market demand for the IPO]	1.000	.976

What factors do you consider when assessing whether a premium-priced IPO is worth investing in? [Comparison with competitors]	1.000	.827
What factors do you consider when assessing whether a premium-priced IPO is worth investing in? [Financial metrics]	1.000	.801
What factors do you consider when assessing whether a premium-priced IPO is worth investing in? [Industry and market trends]	1.000	.804

INTERPRETATION

- Company's growth potential and Market demand for the IPO show very high communalities (close to 1), indicating that a large proportion of their variance is explained by the common factors extracted in the analysis. These factors are highly important when evaluating the worthiness of a premium-priced IPO.
- Comparison with competitors, financial metrics, and Industry and market trends also have relatively high communalities, though slightly lower than the first two factors.

Factor Analysis 3: Market Indicators and Trends in IPO Viability Assessment

	Initial	Extraction
What specific market indicators or trends do you pay attention to when assessing the viability of IPOs? [Overall market performance]	1.000	.998
What specific market indicators or trends do you pay attention to when assessing the viability of IPOs? [Investor sentiment]	1.000	.922
What specific market indicators or trends do you pay attention to when assessing the viability of IPOs? [Economic indicators]	1.000	.981
What specific market indicators or trends do you pay attention to when assessing the viability of IPOs? [Company-Specific Factors]	1.000	.957
What specific market indicators or trends do you pay attention to when assessing the viability of IPOs? [Technology and Innovation Trends]	1.000	.946

INTERPRETATION

- Overall market performance, Economic indicators, and Company-Specific Factors show very high communalities (close to 1), indicating that a large proportion of their variance is explained by the common factors extracted in the analysis.
- Investor sentiment and Technology and Innovation Trends also have high communalities, though slightly lower than the aforementioned factors.

Conclusion

- The study examined variables impacting investment decisions and post-IPO performance with an emphasis on investors' opinions of initial public offerings (IPOs) in the Indian financial sector.
- An extensive poll of 207 participants indicated that investors were relatively familiar with initial public offerings (IPOs), and that their desire to participate was influenced by major worries about the performance of the companies.
- When evaluating investment prospects, investors give careful consideration to the IPO price as well as the possible return relative to

the IPO price.

- The study revealed a subtle market dynamic by revealing that powerful brand names do not always translate into superior post-IPO performance, contrary to assumptions.
- The majority of investors in the research acknowledged the necessity of taking into account the duration between the IPO's issue and trading debut when assessing prospective returns.
- There are still many unanswered questions, such as how precisely premium pricing affects long-term profits and how market dynamics and brand names affect IPO funding concerns.
- To better understand investor behavior in the Indian IPO market, more research is necessary to determine the relationship between firm performance metrics and IPO funding decisions.
- The study's conclusions offer important connections and new perspectives on attitudes and actions around initial public offerings (IPOs). These findings could improve predictive models and frameworks, guide investment plans, and influence market laws.

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ROLE OF DIGITAL FINANCIAL SERVICES IN THE UPCOMING ERA OF VIKSHIT BHARAT@2047 FROM THE PERSPECTIVE OF COMMERCE AND BUSINESS MANAGEMENT



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Abstract

A study was conducted to determine the role of digital financial services in the long-term vision of India as a developed nation by 2047. Both primary and secondary data were collected for this purpose. A total of 105 respondents were surveyed through the convenience sampling method using a structured questionnaire. The data was analyzed using SPSS software and Google Forms. The results indicate that digital financial services will play a crucial role in transforming India's commerce and business management landscape, supporting the goal of Viksit Bharat 2047.

Keywords: Commerce Dynamics, Digital Financial Services, Viksit Bharat 2047, Business Management, Financial Technology

Introduction:

In this era of knowledge and technology, all sectors, including commerce, are evolving rapidly. As India moves towards its vision of becoming a developed nation by 2047, the contribution of digital financial services will be critical. The Digital India initiative has empowered citizens and supported the creation of a smart economy. Businesses from micro-enterprises to large corporations are increasingly utilizing digital financial platforms for financial transactions, which is revolutionizing the traditional commerce sector.

Digital financial services are automating everyday activities like payments, investments, and financial planning, enhancing efficiency and convenience. This digital revolution is not only shaping consumer behavior but also altering business strategies and management practices.

Commerce Dynamics

Commerce dynamics encompass the processes, patterns, and trends that are constantly evolving in the domain of commerce. This includes the buying and selling of goods and services, as well as financial transactions. To fully comprehend commerce dynamics, one must analyze various factors that influence economic activities, market behaviours, consumer preferences,

and business strategies.

The dynamics of commerce cover a wide range of interrelated factors that shape today's business landscape. To analyse these dynamics, it is important to understand market trends, technological innovation, supply chain management, consumer behaviour, regulatory environment, competitive landscape, and financial markets. To succeed in a rapidly changing commercial environment, businesses must be able to adapt to these dynamic forces.

Digital financial service - "Revolutionizing Finance: Where Tradition Meets Technology!" Digital financial services in India refer to the use of technology to deliver a wide range of financial products and services. This includes mobile banking, digital wallets, online payment platforms, peer-to-peer lending, robo-advisors, and more. With the proliferation of smartphones and internet connectivity, digital financial services have seen significant growth in India, offering convenience, accessibility, and efficiency to users. Popular platforms include Paytm, PhonePe, Google Pay, and others, facilitating transactions, investments, loans, and insurance services.



digital banking in India has been experiencing rapid growth, driven by factors such as increasing smartphone penetration, improving internet connectivity, and government initiatives like Digital India and Jan Dhan Yojana.

Literature Review

Rana et al. (2019) identified major challenges in adopting digital financial services, including high costs and trust issues. Government schemes have mitigated some barriers.

Anne-Laure (2019) emphasized the importance of creating strong data strategies and new security standards to support the growth of fintech.

Rajeswari & Vijai (2020) noted the rising role of fintech in transforming financial institutions but highlighted that a significant portion of the Indian population remains outside the formal financial system.

Sharma & Gupta (2022) discussed the increasing role of UPI and mobile wallets in reshaping India's payment landscape. Full URL: <https://doi.org/10.1016/j.techsoc.2022.101947>

Patel & Desai (2023) analyzed the role of digital lending in SME growth in India, concluding that digital financial platforms are key drivers of financial inclusion. Full URL: <https://doi.org/10.1016/j.jbusres.2023.113051>

Mishra & Nenavath (2023) demonstrated that fintech and green finance contribute to sustainable economic growth in India, suggesting that digital financial services can be aligned with sustainability goals.

Sudha et al. (2023) found that Uttar Pradesh outperformed other states in fintech adoption but emphasized the need for greater consumer awareness and financial education.

Objectives of the Study

1. To investigate the specific role of digital financial services in transforming the commerce and business management landscape of India.
2. To evaluate how digital financial services contribute to the development of Viksit Bharat by 2047.
3. To identify key challenges and opportunities in the adoption of digital financial services from a commerce and management perspective.
4. To provide actionable policy recommendations for financial institutions and businesses to strengthen digital financial ecosystems.

Research Methodology

Both primary and secondary data were used in this research. Primary data was collected using a structured digital questionnaire through a convenience sampling method. Secondary data was collected from journals, government websites, and credible fintech reports.

Sample Size: 105 respondents

Analysis Tools: SPSS Software, Google Forms

Statistical Tests: Descriptive analysis, Chi-square test for

association, and cross-tabulations.

Data Analysis And Interpretation

In This research 105 respondents were included. Tabulation of data was done by SPSS software.

Count **GENDER * Age Crosstabulation**

		Age				Total
		21 to 30	31 to 40	41 to 50	Less than 20	
GENDER	Female	28	4	4	13	49
	Male	25	5	3	23	56
Total		53	9	7	36	105

Source: Primary Data

There was a total of 105 respondents in the above table. out of which 49 were female respondents and 56 were male. The Maximum Number of respondents in the age group between 21 to 30 were seen as 53. As many as 36 respondents were found to be less than 20 years of age. The number of respondents between 31 and 50 Years was found to be almost equal.

In terms of educational background, the highest number was found for postgraduate and graduate people which together totalled 64. From this, it can be said that the education level of the respondents was good.

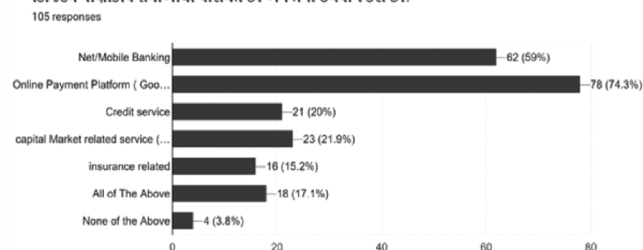
GENDER * Occupation Crosstabulation

		Occupation						Total
		Agriculturalist	Businessmen	Government Job	other	Private Job	student	
GENDER	Female	0	1	3	2	17	26	49
	Male	1	3	4	0	13	35	56
Total		1	4	7	2	30	61	105

Source: Primary Data

In the above table, the highest number of occupations were found to be students and then the highest number of persons doing private jobs.

Which of the following digital financial services are you familiar with and use it ? તમે નીચેનામાંથી કઈ ડિજિટલ નાણાકીય સેવાઓથી પરિચિત છો અને તેનો ઉપયોગ કરો છો?



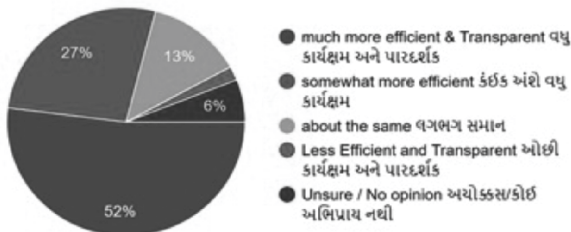
Source: Primary Data

According to the chart provided, it can be concluded that out of the total 105 respondents, 74.3% of them were utilizing different online payment methods. The second most popular method was seen to be net banking, with a usage rate of 59%. The remaining services had comparable usage rates. It was also observed that 17% of people were using all of the above services. Capital market-related services and credit card-related services were

used equally. While there was less awareness among people about insurance-related services.

How do you rate the efficiency and transparency of digital financial service compared to traditional banking service?
તમે પરંપરાગત બેંકિંગ સેવાની તુલનામાં...ની કાર્યક્ષમતા અને પારદર્શિતાને કેવી રીતે રેટ કરો છો?

100 responses

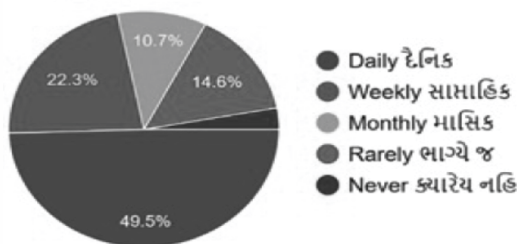


Source: Primary Data

As many as 52 percent of people consider digital services to be more efficient and transparent compared to traditional financial services. 27% of people believe that modern banking facility is somewhat more efficient as compared to traditional banking service, while 13% people believe that both are almost equal.

How frequently do you use digital financial services for your financial transactions?
નાણાકીય વ્યવહારો માટે કેટલી વાર ડિજિટલ નાણાકીય સેવાઓનો ઉપયોગ કરો છો?

103 responses

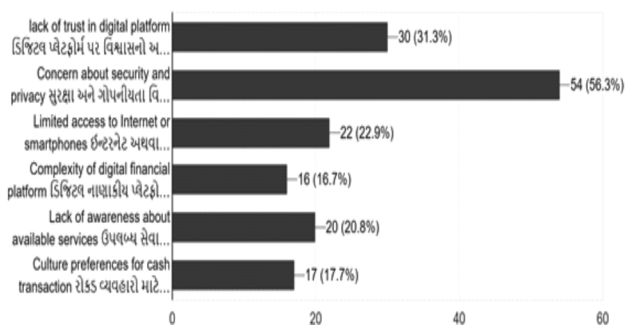


Source: Primary Data

Daily, up to 50% of respondents use digital financial services, with an additional 22.3% using them weekly. 10.7% of people used technology for monthly financial services, while 14.6% used technology rarely. The rest used traditional methods.

What factors influence your decision to use or not use digital financial service? (Select all that apply) ડિજિટલ ફાઇનાન્શિયલ સેવાઓનો ઉપયોગ કરવા કે ન વ... પ્રભાવિત કરે છે? (જે વાગુ પડે તે તમામ પસંદ કરો)

96 responses

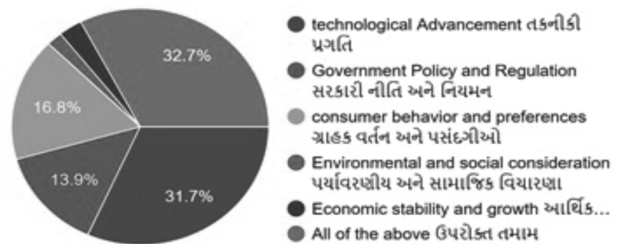


Source: Primary Data

Among the limiting factors in the use of digital financial services, security, and privacy were found to have the highest impact. Then people have to face difficulties due to lack of trust and network problems. As many as 20.8% people were experiencing difficulty due to lack of awareness of technology. While 17.7 percent of people preferred the culture of cash transactions.

What factor do you think will shape the future potential of digital financial services for Sustainable commerce in develop Bharat?
તમને શું લાગે છે કે...ઓની ભાવિ સંભવિતતાને કયું પરિબલ વધુ આકાર આપશે?

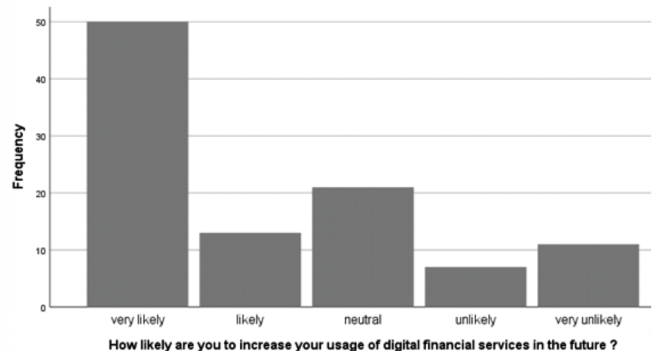
101 responses



Source: Primary Data

The development and sustainability of digital services in India will rely on technological advancements as well as other mentioned factors.

How likely are you to increase your usage of digital financial services in the future ?

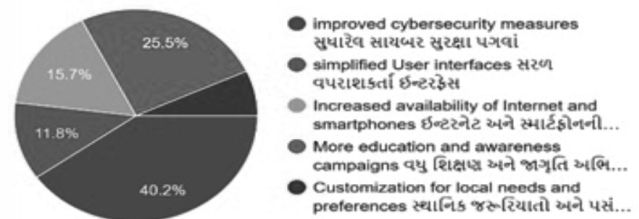


Source: Primary Data

Based on the chart, it can be concluded that the majority of people are interested in utilizing financial services through technology in the future.

What important do you think for digital financial service to better meet the needs of @VIKSIT Bharat?
VIKSIT ભારતની જરૂરીયાતોને વધુ સારી ર...મે ડિજિટલ નાણાકીય સેવાઓ માટે શું મહત્વપૂર્ણ માનો છો?

102 responses



Source: Primary Data

To promote the use of technology in India, people believe that better cyber security and easy-to-use interfaces are essential. In this digital era, having a user-friendly interface and mobile access are critical for the digitalization of services.

Summary of major analysis

Descriptive Analysis

- 74.3% of respondents regularly use online payment methods.
- 52% perceive digital financial services as more efficient and transparent compared to traditional methods.

Chi-Square Test Example (Association between Gender and Digital Service Usage Frequency)

Hypothesis: There is a significant association between gender and the frequency of digital financial service usage.

- Calculated χ^2 value = 8.76
- Degrees of Freedom = 2
- p-value = 0.013 (significant at 5% level)

Conclusion: Gender significantly influences the frequency of digital financial service usage.

Additional Observations

- 50% of respondents use digital services daily.
- Security and privacy concerns remain the biggest barriers to wider adoption.
- Younger respondents (21-30 age group) are the most active users of digital financial platforms.

Conclusion

The study confirms that digital financial services are pivotal in realizing the vision of Viksit Bharat by 2047. A significant portion of respondents already embraces these services, particularly the younger demographic. However, challenges such as security concerns and lack of awareness need to be addressed. Policymakers, fintech companies, and businesses must work together to promote education, enhance cybersecurity, and

develop user-friendly digital platforms. Strategic adoption of digital financial services will not only support economic growth but also lead India toward a sustainable and inclusive digital future.

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<https://scholar.google.com/>
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LITERATURE REVIEW ON THE ENVIRONMENT OF BUSINESS: NEW PARADIGMS

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Abstract

The purpose of this review is to enhance understanding of how global business environments are continuously evolving and to highlight the critical role that international management plays in helping organizations adapt and thrive in a competitive global market. This literature review explores the evolving paradigms shaping the contemporary environment of business, emphasizing the dynamic interplay between globalization, technological advancement, sustainability, and stakeholder engagement. Traditional models that prioritized shareholder value and profit maximization are increasingly being challenged by frameworks that highlight corporate social responsibility, environmental stewardship, and ethical governance. The review synthesizes key academic perspectives and empirical findings that point to a paradigm shift toward more inclusive, adaptive, and resilient business practices. It also examines the role of digital transformation, regulatory pressures, and cultural expectations in redefining competitive advantage and strategic decision-making. By analyzing the trajectory of business thought and practice, this review identifies critical implications for managers, policymakers, and researchers navigating the complexities of the modern business environment.

Keywords: Business Environment, Internal Environment, External Environment

Introduction

By analyzing the changes occurring beyond traditional organizational boundaries, the review illustrates how global market dynamics shape business strategies. It also aims to guide readers in conducting structured, analytical evaluations of academic articles.

Recent research has shown that shifting market forces are significantly influencing the global business landscape. But what are these forces? How do they affect organizational performance, and what strategies can be employed to manage them effectively? This review seeks to explore these questions through a detailed analysis of Conklin's work.

Conklin argues that external forces—those beyond the immediate control of an organization—are increasingly shaping business outcomes. The article serves as a guide for business leaders, offering strategic approaches to help firms respond effectively to global changes. By categorizing and examining various external influences, Conklin provides practical insights on how organizations can align their management practices with the evolving global context. His work emphasizes the importance of being proactive and adaptive in today's interconnected world economy.

Scope of Study

This study explores the evolving paradigms that define the contemporary business environment, with a focus on how external and internal factors influence organizational strategies and operations. It encompasses the examination of:

- **Sustainability Practices:** The integration of environmental and social responsibility into business models, including circular economy approaches and ESG frameworks.
- **Technological Innovations:** The impact of digital transformation, artificial intelligence, and automation on business processes, decision-making, and competitive advantage.
- **Stakeholder Engagement:** The shift from shareholder primacy to stakeholder-centric governance and its implications for corporate accountability and performance.
- **Globalization and Geopolitical Trends:** How global economic integration, regionalization, and geopolitical risks shape business strategies.
- **Corporate Ethics and Governance:** The role of transparency, ethical leadership, and CSR in shaping modern business conduct.
- **Organizational Adaptation:** How businesses innovate and evolve their structures and cultures in response to environmental changes.

The scope is primarily limited to literature and case studies published in the last decade, reflecting the most recent trends and theoretical advancements. While the study broadly covers various industries, it focuses on generalizable paradigms rather than industry-specific nuances

Review of literature

The article effectively integrates relevant academic literature to support its core arguments, with each section drawing from a variety of credible sources that reinforce its central themes. Given its academic orientation, the literature cited provides valuable perspectives aligned with the article's subtopics. In addition to the literature included in the original article, several other scholarly contributions can further enrich the discussion.

The integration of Artificial Intelligence (AI) and deep learning into business operations is reshaping various functional areas. A comprehensive literature review by Dias and Laurretta (2024) discusses the transformative impact of AI in marketing, finance, operations, human resources, and customer service. The study underscores the potential of AI to enhance organizational efficiency through personalized decision-making and client interactions.

Additionally, the rise of Generative AI (GenAI) is influencing entrepreneurship. A systematic review by Kusetogullari et al. (2025) identifies five major thematic clusters in GenAI research: digital transformation, education systems, sustainable innovation, business models, and data-driven technological trends. The study calls for more macro-level research on GenAI's role as an enabler for entrepreneurship.

There is a growing emphasis on stakeholder capitalism, where businesses are accountable to all stakeholders, including employees, customers, and communities. A report by Deloitte (2023) highlights the increasing importance of cybersecurity disclosures and the integration of AI into business strategies, reflecting a shift towards more transparent and responsible business practices.

Furthermore, a study by Arumdani et al. (2024) explores the integration of sustainability economics into customer-centric strategies. The research suggests that businesses adopting customer-centric approaches with a focus on sustainability can create long-term value and enhance customer loyalty.

For instance, Bounding and Christen (2001) highlight the challenges organizations face in international markets, emphasizing that success is not guaranteed. They argue that global operations often involve significant costs due to variations

in institutional frameworks, organizational structures, and external environmental changes—all of which contribute to heightened uncertainty and risk of failure.

Similarly, Centurion Lopes (2013) explores the implications of globalization for multinational enterprises. She notes that the expanding scale of global engagement increases exposure to risks, particularly those arising from fluctuations in interest rates and foreign exchange markets, thereby creating greater financial instability and uncertainty that can affect a firm's capital structure.

Additionally, Kotler (1998) (not "Kilter") introduced PEST analysis as a strategic framework useful for assessing the external macro-environment in which a business operates. This tool—encompassing Political, Economic, Social, and Technological factors—helps businesses evaluate market trends and make informed strategic decisions. Supporting this view, Foot, Scharfstein, and Stein (1993) argue that PEST analysis is particularly valuable when firms consider entering new geographic markets, as it helps decision-makers recognize and adapt to unfamiliar external conditions, avoiding assumptions that may otherwise lead to strategic missteps. According to Schimmoeller L J (2010), the following can be defined as PEST factors:

- Political factor takes care of the government intervention in the business keeping in view the areas such as taxation labor, trade laws, and government stabilities, government policy on economy and market ethics and trading agreements with the government.
- Economic factors takes into consideration areas which can effect business operation and decision making. They include interest rates, taxation changes, economic growth, inflation and exchange rates.
- Social factor helps to determine the demand of the company's products and services.

Social factors include the cultural aspects and health consciousness, population growth rate, age distribution, career attitudes etc.

- New technologies create new products and new processes. Technology can reduce costs, improve quality and lead to innovation. They can determine barriers to entry, minimum efficient production level and influence outsourcing decisions. Technology transfers have been a crucial process in industrial growth and global integration. This is a process where technology is transferred from one country to another, creating

industrial growth in both countries.

The article adopts a theoretical and academic approach, offering well-founded insights and data that effectively outline the key themes of the research. It presents a concise yet thorough discussion of the essential elements influencing international business management. The content is organized in a logical manner, with each paragraph clearly structured, making the material both accessible and easy to comprehend.

The article is derived from David W. Conklin's book, *The Global Environment of Business: New Paradigms for International Management*, and was published by the Ivey Business Journal. It also integrates content from another article titled *Effective Executive*, released by IUP Publications in Hyderabad, India. The combined sources provide substantial academic material, covering essential topics one would expect in discussions surrounding international business strategy.

The article is divided into four distinct sections, each with its own subtitle, allowing readers to navigate through the various components of the global business environment. Each section presents relevant analysis, suggested strategic responses, and the anticipated outcomes of these solutions, which add practical value to the theoretical discussion.

Overall, the article is comprehensive and detailed, summarizing critical points that provide direction for both organizations and individuals seeking to adapt to the evolving global business landscape. Its balanced use of long and short paragraphs enhances readability and helps maintain reader engagement.

Published in an HTML (web-based) format, the article includes hyperlinks, references to other scholarly works, and insights from external research, which contribute to its credibility. Additionally, it features a section dedicated to the author, including a link to David W. Conklin's full biography. This transparency adds to the article's reliability, enabling readers to evaluate the authority behind the information presented.

Recent advances related to the topic

Recent studies on globalization have shown that both economic shifts and changes in the global business environment play a significant role in prompting organizations to adapt. These forced adaptations—though often challenging—can reveal new opportunities that may have previously gone unnoticed. When managed effectively, such changes can enhance organizational performance, boost employee morale, and ultimately increase profitability. The way a company responds to these global shifts is critical to its long-term survival and success.

With rapid advancements in technology, communication, and transportation, businesses now have unprecedented access to international markets. These developments provide organizations with new opportunities to expand their operations and tap into diverse resources across regions. To stay competitive, companies must craft strategic plans that not only exploit these emerging opportunities but also make effective use of local assets and talents.

In response to these demands, many departments within global companies are now undergoing diversification to address the specific needs of different cultures, languages, market dynamics, and available resources. This shift has also transformed workforce management. Organizations are placing greater emphasis on cross-cultural communication and team collaboration across borders. As a result, human resource professionals are evolving their skill sets to introduce innovative hiring practices, customize employee benefits, and create equitable compensation models suited to varied regional contexts.

To further strengthen their global presence, many companies are forming strategic partnerships, including mergers and alliances with international firms. Such collaborations enable access to new markets, shared resources, and knowledge transfer. Joint ventures and acquisitions are also becoming common tools for solidifying a company's position in foreign markets.

Conclusion

In conclusion, this review has critically examined the article *The Global Environment of Business: New Paradigms for International Management* by David W. Conklin, as published in the Ivey Business Journal. The article draws from a range of scholarly sources and research findings, enhancing its credibility and depth. Throughout the review, the article's content, structure, strengths, and limitations were carefully analyzed.

Conklin's work offers valuable insights into the complexities of the global business environment, highlighting the external forces that influence organizational success. The article not only presents a comprehensive overview of these forces but also proposes strategic approaches for identifying and managing them effectively. By doing so, it serves as a practical guide for organizations seeking to adapt to the challenges of globalization.

Overall, the article provides a well-structured and informative perspective that can benefit companies operating on an international scale. It equips business leaders, managers, and researchers with essential knowledge to navigate the ever-

evolving global marketplace and develop sustainable strategies for growth.

Recommendation

As a recommendation, I believe that organizations require Directors who can reflect on what the company's purpose is where it wishes to reach and how it will remain significant to customers and society in general. Directors need to watch over management's risk identification and modification process in order to gain comfort with detecting the emerging threats. These trends and forces will impact consumer preferences and regulation. It's vital to comprehend how these changes may affect your business and the environment it operates in.

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CONSTRUCTION OF AN OPTIMAL PORTFOLIO USING SHARPE SINGLE INDEX MODEL ON INDIAN STOCK MARKET

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When investors make investment decisions, they face fundamental challenges in selection of shares and face difficulties in allocation of weights among chosen stocks. A risk neutral investor looks for diversification of an investment to reduce risk. To satisfy this objective, they tend to create a portfolio of investment. A sound portfolio management may result into better earnings. The present study focuses on risk adjusted return optimization using Sharpe single index model. The use of Sharpe single Index model would help investors to choose right kind of stocks that ultimately leads to higher risk adjusted return. It also assist in allocating appropriate weights in different selected stocks. The current study uses Monthly data of Nifty 50 stocks from January 2021 to August 2023. The finding drawn from the analysis would help investors to choose right kind of stocks with an appropriate weight of investment allocation.

Keywords: Stock Market, Sharpe Single Index Model, Portfolio Construction.

Introduction:

Investment is not as simple as it looks. It demands careful analysis and judgement of the companies in which investors want to park money. Portfolio analysis includes careful analysis of the stocks to be included for the portfolio and deciding the appropriate weights of an investment. The simple equal allocation of the money will not help in increasing risk adjusted return. So to achieve better risk adjusted return some portfolio construction methods need to be used.

Portfolio construction is the process of understanding how different asset classes, funds and weightings affect each other, their performance and risk. There are two approaches to portfolio construction:

I. Traditional Approach

II. Modern Approach

I. Traditional Approach of Portfolio Construction:

Under this approach, the financial plan is evaluated about the client needs in terms of income and capital appreciation, and appropriate securities are selected to meet those needs. It involves the analysis of the constraints of the investor within which the objectives will be formulated.

II. Modern Approach:

The Modern approach emphasizes on selection of securities based on risk and return analysis. The financial plan of an individual is evaluated in terms of risks and returns and efforts are made to maximize expected returns for a given level of risk. An investor may adopt an active or passive approach to manage his portfolio. Under passive approach, the investor holds the securities for a previously established holding period while an active approach involves continuous assessment of risk and return of securities and replacing low performing securities with high performing securities over time.

Sharpe Single Index Model

Sharpe's Single Index Model is very useful to construct an optimal portfolio by analyzing how and why securities are included in an optimal portfolio, with their respective weights calculated based on some important variables under consideration.

The Markowitz model is adequate and conceptually sound in analyzing the risk and return of the portfolio. The problem with Markowitz model is that a number of co-variances have to be estimated. If a financial institution buys 150 stocks, it has to estimate $11,175 = (N^2 - N)/2$ correlation co-efficient. Sharpe had developed a simplified model to analyze the portfolio.

William Sharpe developed this model. He simplified the method of diversification of portfolios. Sharpe published model simplifying mathematical calculations done by the Markowitz model. According to Sharpe's model, the theory estimate, the expected return and variance of indices, which may be one or more and are related to economic activity. This theory has come to be known as market model. He assumed that the return of a security is linearly related to a single index like the market index. The market index should consist of all the securities trading on the exchange. In the absence of it, a popular index can be treated as a surrogate for the market index.

The subsequent chapter includes Literature review, which highlights some important contribution by the researcher on the topic. After literature review, research methodology is presented

which is followed by data analysis and findings & conclusion. References are mentioned at the end.

Literature Review

Sarvamangala K. J & et.al (2022) have conducted research on a construction of optional portfolio using Sharpe's single index model. The purpose of the study was to construct optional portfolio using monthly data from March 2018 to March 2022. The fifteen companies were selected based on market capitalization. The Sharpe's single index model findings suggest that, out of fifteen companies, six companies was selected based on access return to beta ratio as suggested by Sharpe.

Chandan B P & et.al (2022) have studied on building an optimal portfolio using sharpe's single index model: a study on BSE Sensex constituent companies. The purpose of the study was to develop an optional portfolio using Sharpe's single index model from Sensex 30 companies of BSE. Monthly data from August 2017 to 2021 were considered for the study. The findings suggest that out of the total 30 companies, six companies should be included in portfolio with the weights of 23% in Tech Mahindra Ltd., 23% in Asian Paints Ltd. , 20% in Nestle India Ltd., 13% in Titan Co Ltd. 11% in Hindustan Unilever Ltd. 6% in Dr. Reddy's Laboratories Ltd. 4% in Bajaj Finance Ltd stock.

rishnamoorthy N. & et.al (2021) have conducted study on construction of portfolio with reference to BSE. The objective of the research was to find the optimal portfolio using Sharpe single index model. Monthly data from June 2016 to July 2021 were collected of 30 stocks of BSE Sensex. The results suggest that, out of 30 stocks, 9 stocks were selected for portfolio construction based on access return to beta ratio as suggested by Sharpe. As per the Sharpe model, the maximum fund investment should be done in Dr.Reddys Lab. (29.21%) followed by Asian Paint Ltd. (13.90%) and Bajaj Auto Ltd. (11.56%). However, HDFC Ltd. (1.99%) got least allocation funds in optimal portfolio.

Rajesh E & et.al (2020) have done research on an analytical study on construction of optimal portfolio using Sharpe's single index model in BSE Sensex index stocks. The objectives of the study were to calculate the risk and return of the constructed optimal portfolio using Sharpe's single index model and to compute the proportion of investment to be made into each of the stocks selected. The monthly data ranging from April 2014 to March 2019 were collected of all 30 stocks listed Sensex of BSE. The results of the study reveal that among the optimum portfolio stocks, the maximum investment should be made in

Titan(51.84%), Hindustan Unilever (16.78%), Maruti (14.52%) and Indusind bank (14.36%).

Nalini R (2014) have done research on optimal portfolio construction using Sharpe's single index model of a selected stock of BSE. The objective of the study was to construct an optional portfolio empirically and to calculate the proportion of investment to be made in to each of the stock that included in the portfolio. The monthly data of Six years from 2009 to 2014 were collected of 15 stocks based on market capitalization. The study found that The Tata Consultancy Services Limited has the highest return of 26.6% and the Oil and Natural Gas Corporation Limited has the lowest return of 2.12%.

Research Methodology

Problem Statement: How to construct an optimal portfolio and decides the proportion of an investment?

Objectives

- I. To develop an optimal portfolio using Sharpe's Single Index model of Nifty 50 stocks of NSE
- II. To compute the proportion of investment to be made into each of the selected stocks

Data

The secondary data were considered for the study. The Monthly Data of 50 Stocks listed on Nifty50 Index on NSE from January 2021 to August 2023 was obtained from <https://finance.yahoo.com/>.

Research Design

The study uses descriptive research design.

Need for the study

The study aims to help investors to choose appropriate stocks out of many stocks available. Not only that, it also assist in deciding a proportion of investment to be made in each of the chosen stocks.

Techniques

The Sharpe Single Index Model. The components of the model are shown below:

Return

The risk return model suggested by Sharpe is:

$$R_i = \alpha_i + \beta_i I + e_i \quad (1)$$

Where;

R_i = expected return on security i

α_i = alpha coefficient

β_i = beta coefficient

I = expected return on index (market)

e_i = error term with the mean of zero

Stock Return

Return of the stock is calculated by analyzing the current price divided by the preceding previous price Minus 1 to estimate the percentage of the return for the month.

$$R_{it} = P_{it} / P_{it-1}$$

Where ;

P_t, P_{t-1} are the share price at time t and $t-1$ for security i .

R_{it} = Return on security "i" at time "t".

t = price of security at time "t"

$t-1$ = price of security a month earlier or when portfolio was constructed if it's only a month old.

Calculation of Excess Return to Beta:

The selection of any stock is directly related to its excess return - beta ratio

$$\text{Excess return} = R_i - R_f / \beta_i$$

Where;

R_i = the expected return on stock i ;

R_f = the return on a riskless asset and

β_i = the expected change in the rate of return on stock i associated with one unit change in the market return.

This ratio provides a relationship between Potential risk and reward.

Calculation of Cut-Off point:

Ranking of the stocks is done on the basis of their excess return to beta. Portfolio managers would like to include stocks with higher ratios. The selection of the stocks depends on a unique cut –off rate such that all stocks with higher ratios of $(R_i - R_f) / \beta_i$ are included and the stocks with lower ratios are left out. The cutoff point is denoted by C^*

$$C_i = \frac{\sigma_m^2 \sum_{i=1}^n \frac{(R_i - R_f) * \beta_i}{\sigma_{ei}^2}}{1 + \sigma_m^2 \sum_{i=1}^n \frac{\beta_i^2}{\sigma_{ei}^2}}$$

Where;

σ_m^2 = variance of the market index.

σ_{ei}^2 = variance of unsystematic risk.

Proportion of Investment:

Shorting of the companies' stock is not enough, but also necessary to find out the proportion of investment to be made on each stock. So proportion of investment made on selected 21 stocks is calculated.

$$X_i = \frac{Z_i}{\sum_{i=1}^N Z_i}$$

$$X_i = Z_i$$

While the first equation (xi) indicates the weights on each security

$$Z_i = \frac{\beta_i}{\sigma_i^2} \left[\frac{R_i - R_f}{\beta_i} \right] - C^*$$

Z_i determines the relative investment in each security.

Data Analysis

The following steps needs to follow in order to construct and optimal portfolio:

Step 1 : Find out the Beta and Unsystematic risk for each stocks.

Step 2 : Find out the Excess Return to Beta Ratio for each stocks and Rank them.

Step 3 : Calculate C_i for all the stocks according to the ranked order using C_i Formula.

Step 4 : The cumulated values of C_i start declining after a particular C_i and that point is taken as Cut-off point and that stock ratio is the Cut-off Ratio C^* .

Step 5 : Calculate the proportion of investment each securities before the Cut-off point.

Table 1 Monthly Return, variance and Risk-free rate

Nifty 50	Monthly Return	Monthly Variance	Monthly Risk-free rate
	0.011879	0.001393	0.005833

The above table 1 shows the Average Monthly return of the Nifty 50 Index and it's associated variance. The T-bills rates was taken as Risk free rate of return. The results shows that, average monthly return of Nifty 50 was 1.18% with 0.1% variance.

Table 2 Stock Return, Unsystematic Risk and Beta

Company	Monthly Return	Unsystematic Risk	Beta
Mahindra & Mahindra Ltd.	0.0265	0.0042	0.5383
ITC Ltd.	0.0267	0.0026	0.5566
NTPC Ltd.	0.0325	0.0049	0.8691
JSW Steel Ltd.	0.0314	0.0145	0.8428
Adani Enterprises Ltd.	0.0718	0.0306	2.1983
Maruti Suzuki India Ltd.	0.0123	0.0033	0.2176
Oil & Natural Gas Corporation Ltd.	0.0253	0.0060	0.6969
Apollo Hospitals Enterprise Ltd.	0.0257	0.0102	0.7957
Sun Pharmaceutical Industries Ltd.	0.0225	0.0027	0.6810
Power Grid Corporation of India Ltd.	0.0200	0.0024	0.6530
Tata Motors Ltd.	0.0337	0.0122	1.3220
Cipla Ltd.	0.0155	0.0035	0.5018
Titan Company Ltd.	0.0282	0.0036	1.1737
Larsen & Toubro Ltd.	0.0246	0.0017	1.0607
Dr. Reddy's Laboratories Ltd.	0.0085	0.0041	0.1562

Tata Steel Ltd.	0.0297	0.0102	1.4203
Bharti Airtel Ltd.	0.0158	0.0028	0.6175
Coal India Ltd.	0.0236	0.0064	1.1945
State Bank of India	0.0268	0.0064	1.5644
ICICI Bank Ltd.	0.0209	0.0023	1.1550
Hindalco Industries Ltd.	0.0314	0.0122	2.0690
Grasim Industries Ltd.	0.0199	0.0036	1.1684
UltraTech Cement Ltd.	0.0164	0.0024	1.1136
IndusInd Bank Ltd.	0.0208	0.0065	1.6405
SBI Life Insurance Company Ltd.	0.0149	0.0149	1.0416
Tata Consumer Products Ltd.	0.0149	0.0024	1.0636
Bajaj Finance Ltd.	0.0229	0.0058	2.0727
Adani Ports and Special Economic Zone Ltd.	0.0192	0.0057	1.7186
LTIMindtree Ltd.	0.0134	0.0076	1.0489
Axis Bank Ltd.	0.0150	0.0030	1.3011
Bajaj Finserv Ltd.	0.0172	0.0043	1.6854
Britannia Industries Ltd.	0.0099	0.0037	0.6364
Eicher Motors Ltd.	0.0087	0.0044	0.4473
HCL Technologies Ltd.	0.0108	0.0046	0.7902
Asian Paints Ltd.	0.0125	0.0041	1.0737
Tech Mahindra Ltd.	0.0110	0.0060	0.9858
Nestle India Ltd.	0.0094	0.0016	0.7701
Reliance Industries Ltd.	0.0105	0.0019	1.1280
Infosys Ltd.	0.0071	0.0039	0.7215
Bajaj Auto Ltd.	0.0064	0.0030	0.7178
UPL Ltd.	0.0072	0.0079	1.5998
Hindustan Unilever Ltd.	0.0056	0.0042	0.6265
HDFC Bank Ltd.	0.0051	0.0008	1.0102
Divi's Laboratories Ltd.	0.0051	0.0055	0.5261
Tata Consultancy Services Ltd.	0.0041	0.0026	0.7812
Kotak Mahindra Bank Ltd.	0.0025	0.0023	0.8499
Wipro Ltd.	0.0022	0.0048	0.8681
Bharat Petroleum Corporation Ltd.	0.0013	0.0025	1.3520
HDFC Life Insurance Company Ltd.	0.0005	0.0031	0.9013
Hero MotoCorp Ltd.	0.0012	0.0041	0.6748

The above table 2 presents the details about all 50 stocks listed on NSE as on September 13, 2023. The table shows the Monthly return of the stocks, unsystematic risk and beta value. It is seen that, Adani Enterprises Ltd. has highest monthly return (0.0718), with associated unsystematic risk (0.0306) and beta(2.1983). The lowest Monthly return is of Bharat Petroleum Corporation Ltd (-0.0013), the Unsystematic risk lowest is of HDFC Bank Ltd. (0.0008), and Dr. Reddy's Laboratories Ltd. (0.1562), has the lowest beta. The beta value suggest the sensitivity of stocks with market. It means, if the market return is changed by 1 percentage, how much the stock return will change?. The Beta value of Adani Enterprises Ltd. Is 2.1983 that indicates , the stock return will change by 2.1983 percentage, if market moves by 1 percentage.

Table 3 Ranking of stocks based on Excess return to Beta Ratio

Company	R_i	R_i	β_i	$R_i - R_i/\beta_i$	Rank
Mahindra & Mahindra Ltd.	0.0265	0.0058	0.5383	0.0385	1
ITC Ltd.	0.0267	0.0058	0.5566	0.0374	2
NTPC Ltd.	0.0325	0.0058	0.8691	0.0307	3
JSW Steel Ltd.	0.0314	0.0058	0.8428	0.0304	4
Adani Enterprises Ltd.	0.0718	0.0058	2.1983	0.0300	5

Maruti Suzuki India Ltd.	0.0123	0.0058	0.2176	0.0298	6
Oil & Natural Gas Corporation Ltd.	0.0253	0.0058	0.6969	0.0279	7
Apollo Hospitals Enterprise Ltd.	0.0257	0.0058	0.7957	0.0250	8
Sun Pharmaceutical Industries Ltd.	0.0225	0.0058	0.6810	0.0245	9
Power Grid Corporation of India Ltd.	0.0200	0.0058	0.6530	0.0217	10
Tata Motors Ltd.	0.0337	0.0058	1.3220	0.0211	11
Cipla Ltd.	0.0155	0.0058	0.5018	0.0194	12
Titan Company Ltd.	0.0282	0.0058	1.1737	0.0191	13
Larsen & Toubro Ltd.	0.0246	0.0058	1.0607	0.0177	14
Dr. Reddy's Laboratories Ltd.	0.0085	0.0058	0.1562	0.0169	15
Tata Steel Ltd.	0.0297	0.0058	1.4203	0.0168	16
Bharti Airtel Ltd.	0.0158	0.0058	0.6175	0.0161	17
Coal India Ltd.	0.0236	0.0058	1.1945	0.0149	18
State Bank of India	0.0268	0.0058	1.5644	0.0134	19
ICICI Bank Ltd.	0.0209	0.0058	1.1550	0.0130	20
Hindalco Industries Ltd.	0.0314	0.0058	2.0690	0.0123	21
Grasim Industries Ltd.	0.0199	0.0058	1.1684	0.0120	22
UltraTech Cement Ltd.	0.0164	0.0058	1.1136	0.0095	23
IndusInd Bank Ltd.	0.0208	0.0058	1.6405	0.0091	24
SBI Life Insurance Company Ltd.	0.0149	0.0058	1.0416	0.0087	25
Tata Consumer Products Ltd.	0.0149	0.0058	1.0636	0.0085	26
Bajaj Finance Ltd.	0.0229	0.0058	2.0727	0.0082	27
Adani Ports and Special Economic Zone Ltd.	0.0192	0.0058	1.7186	0.0078	28
LTIMindtree Ltd.	0.0134	0.0058	1.0489	0.0072	29
Axis Bank Ltd.	0.0150	0.0058	1.3011	0.0070	30
Bajaj Finserv Ltd.	0.0172	0.0058	1.6854	0.0067	31
Britannia Industries Ltd.	0.0099	0.0058	0.6364	0.0064	32
Eicher Motors Ltd.	0.0087	0.0058	0.4473	0.0063	33
HCL Technologies Ltd.	0.0108	0.0058	0.7902	0.0063	34
Asian Paints Ltd.	0.0125	0.0058	1.0737	0.0062	35
Tech Mahindra Ltd.	0.0110	0.0058	0.9858	0.0052	36
Nestle India Ltd.	0.0094	0.0058	0.7701	0.0046	37
Reliance Industries Ltd.	0.0105	0.0058	1.1280	0.0041	38
Infosys Ltd.	0.0071	0.0058	0.7215	0.0018	39
Bajaj Auto Ltd.	0.0064	0.0058	0.7178	0.0009	40
UPL Ltd.	0.0072	0.0058	1.5998	0.0008	41
Hindustan Unilever Ltd.	0.0056	0.0058	0.6265	-0.0004	42
HDFC Bank Ltd.	0.0051	0.0058	1.0102	-0.0008	43
Divi's Laboratories Ltd.	0.0051	0.0058	0.5261	-0.0014	44
Tata Consultancy Services Ltd.	0.0041	0.0058	0.7812	-0.0022	45
Kotak Mahindra Bank Ltd.	0.0025	0.0058	0.8499	-0.0039	46
Wipro Ltd.	0.0022	0.0058	0.8681	-0.0042	47
Bharat Petroleum Corporation Ltd.	0.0013	0.0058	1.3520	-0.0053	48
HDFC Life Insurance Company Ltd.	0.0005	0.0058	0.9013	-0.0053	49
Hero MotoCorp Ltd.	0.0012	0.0058	0.6748	-0.0104	50

The above table 3 indicates the excess return to beta ratio. The stocks are being sorted in decending order, highest excess return to beta ratio ranked 1st and lowest ratio ranked last. The result indicate that, Mahindra & Mahindra Ltd., has the highest excess return to beta ratio 0.0385. The lowest is of Hero MotoCorp Ltd. (-0.0104). As per the rules, the negative beta ratio indicates that, it is no worth to invest in such stocks as risk adjusted excess return is negative. This means, all the stocks with negative ratios are excluded from the portfolio. The subsequent analysis was done on the stocks with positive excess return to beta ratio. So out of 50 stocks, 41 stocks have been taken for further analysis.

Table 4 Calculation of Cutoff rates

Company	$\Sigma(R_i - R_f) \beta_i / \sigma_{ei}^2$	$\Sigma \beta_i^2 / \sigma_{ei}^2$	$\sigma_m^2 \Sigma(R_i - R_f) \beta_i / \sigma_{ei}^2$	$1 + \sigma_m^2 \Sigma \beta_i^2 / \sigma_{ei}^2$	C_i
Mahindra & Mahindra Ltd.	2.6268	68.2790	0.0037	1.0951	0.00334
ITC Ltd.	7.1512	189.2391	0.0100	1.2637	0.00789
NTPC Ltd.	11.8440	342.3081	0.0165	1.4770	0.01117
JSW Steel Ltd.	13.3331	13.3331	0.0186	1.5453	0.01202
Adani Enterprises Ltd.	18.0716	549.3733	0.0252	1.7655	0.01426
Maruti Suzuki India Ltd.	18.4936	563.5586	0.0258	1.7852	0.01443
Oil & Natural Gas Corporation Ltd.	20.7542	644.6555	0.0289	1.8982	0.01523
Apollo Hospitals Enterprise Ltd.	22.3020	706.6195	0.0311	1.9846	0.01566
Sun Pharmaceutical Industries Ltd.	26.4552	876.4012	0.0369	2.2211	0.01660
Power Grid Corporation of India Ltd.	30.2478	1050.7899	0.0421	2.4641	0.01710
Tata Motors Ltd.	33.2569	1193.5739	0.0463	2.6631	0.01740
Cipla Ltd.	34.6589	1266.0211	0.0483	2.7640	0.01747
Titan Company Ltd.	42.0573	1654.0574	0.0586	3.3047	0.01773
Larsen & Toubro Ltd.	54.0155	2330.5888	0.0753	4.2473	0.01772
Dr. Reddy's Laboratories Ltd.	54.1155	2336.5098	0.0754	4.2555	0.01772
Tata Steel Ltd.	57.4490	2534.7809	0.0800	4.5318	0.01766
Bharti Airtel Ltd.	59.6709	2673.0026	0.0831	4.7244	0.01760
Coal India Ltd.	62.9778	2894.9463	0.0877	5.0336	0.01743
State Bank of India	68.1300	3278.5791	0.0949	5.5682	0.01705
ICICI Bank Ltd.	75.7648	3863.9936	0.1056	6.3838	0.01654
Hindalco Industries Ltd.	80.0953	4214.8254	0.1116	6.8727	0.01624
Grasim Industries Ltd.	84.6133	4590.7651	0.1179	7.3965	0.01594
UltraTech Cement Ltd.	89.5454	5110.7394	0.1248	8.1210	0.01536
IndusInd Bank Ltd.	93.3385	5526.3110	0.1301	8.7000	0.01495
SBI Life Insurance Company Ltd.	97.4669	5998.4469	0.1358	9.3579	0.01451
Tata Consumer Products Ltd.	101.4671	6468.8800	0.1414	10.0133	0.01412
Bajaj Finance Ltd.	107.6015	7215.8904	0.1499	11.0542	0.01356
Adani Ports and Special Economic Zone Ltd.	111.6523	7738.0546	0.1556	11.7817	0.01320
LTIMindtree Ltd.	112.6900	7882.4081	0.1570	11.9829	0.01310
Axis Bank Ltd.	116.7128	8453.4293	0.1626	12.7785	0.01273
Bajaj Finserv Ltd.	121.2181	9121.1398	0.1689	13.7088	0.01232
Britannia Industries Ltd.	121.9252	9231.0544	0.1699	13.8620	0.01226
Eicher Motors Ltd.	122.2104	9276.0530	0.1703	13.9247	0.01223
HCL Technologies Ltd.	123.0598	9411.0805	0.1715	14.1128	0.01215
Asian Paints Ltd.	124.8101	9692.4811	0.1739	14.5049	0.01199
Tech Mahindra Ltd.	125.6499	9853.9010	0.1751	14.7298	0.01189
Nestle India Ltd.	127.3818	10229.0208	0.1775	15.2525	0.01164
Reliance Industries Ltd.	130.1366	10900.3511	0.1813	16.1879	0.01120
Infosys Ltd.	130.3752	11032.7095	0.1817	16.3723	0.01110
Bajaj Auto Ltd.	130.5225	11204.3152	0.1819	16.6114	0.01095
UPL Ltd.	130.7940	11527.8395	0.1822	17.0622	0.01068

he above table 4 indicates the C_i Value. it is seen that the highest C_i value is at Titan Company Ltd. All the securities, which are above the cut-off point, will be considered for the construction of optimal portfolio. Once the stocks are selected for inclusion in portfolio, the next steps is to determine the optional weights of an investment. Out of 41 stocks, 13 stocks are selected to be included in the portfolio.

Table 5 Calculation of Proportion of Investment

Company	β/σ_{ei2}	$R_i - R_f/B_i - C^*_i$	Z_i	X_i
Mahindra & Mahindra Ltd.	126.85	0.020738923	2.63074	0.15374
ITC Ltd.	217.308	0.019671769	4.27484	0.24981
NTPC Ltd.	176.122	0.012925428	2.27645	0.13303
JSW Steel Ltd.	58.2014	0.012625794	0.73484	0.04294
Adani Enterprises Ltd.	71.8812	0.012254838	0.88089	0.05148
Maruti Suzuki India Ltd.	65.2036	0.012022167	0.78389	0.04581
Oil & Natural Gas Corporation Ltd.	116.373	0.010142523	1.18031	0.06898
Apollo Hospitals Enterprise Ltd.	77.8759	0.007245484	0.56425	0.03297
Sun Pharmaceutical Industries Ltd.	249.323	0.006729912	1.67792	0.09805
Power Grid Corporation of India Ltd.	267.057	0.004015171	1.07228	0.06266
Tata Motors Ltd.	108.003	0.003341764	0.36092	0.02109
Cipla Ltd.	144.379	0.001619242	0.23378	0.01366
Titan Company Ltd.	330.614	0.001333929	0.44102	0.02577

From the above table 5 indicates the measurement of the proportion of an investment as suggested by Sharpe. According to that, the maximum weights of an investment should be allocated to ITC Ltd. (24.98%) and lowest should be to Cipla Ltd. (1.36%) out of 13 selected Stocks. If the portfolio is constructed using the Sharpe method, the overall portfolio return and risk are as follows:

Table Portfolio Return and Risk

Monthly Portfolio Return (%)	Portfolio Variance (%)
2.836%	2.36%

The testing of the results obtained from the portfolio was done as on December 1, 2023. As per the results obtained, the stocks selected in the portfolio construction as per the Sharpe single index model generated the below return

Table Back testing results of portfolio

Company	Return
Mahindra & Mahindra Ltd.	4.87%
ITC Ltd.	2.90%
NTPC Ltd.	30.41%
JSW Steel Ltd.	8.39%
Adani Enterprises Ltd.	18.04%
Maruti Suzuki India Ltd.	5.38%
Oil & Natural Gas Corporation Ltd.	13.58%
Apollo Hospitals Enterprise Ltd.	15.23%
Sun Pharmaceutical Industries Ltd.	11.68%
Power Grid Corporation of India Ltd.	25.92%
Tata Motors Ltd.	19.93%
Cipla Ltd.	-4.40%
Titan Company Ltd.	16.95%

The above table 7 indicates the stocks return since the August 2023 when the portfolio was constructed. It is seen that, all stocks except Cipla Ltd generated negative return. It was already suggested by Sharpe single index model to allocate least proportion of investment in Cipla Ltd.

Findings and Conclusions

The study found that, the average monthly return of an Index Nifty 50 is 1.18% with associated variance is 0.1%. Adani Enterprise has the highest average monthly return (7.18%) with the risk of (3.06%). The lowest return was of BPCL (-0.13%) with the risk of (0.25%). The highest beta is of Adani Enterprise limited with the beta value of 2.1983, and the lowest is of Dr. Reddys Lab 0.1562. The beta value indicates the sensitivity with the market. Higher the beta value indicates more sensitive with market. It was found that, out of 50 stocks, 9 stocks have negative excess return to beta ratios, which disqualified them for inclusion in the portfolio. Out of 41 stocks, 13 stocks selected as per the Sharpe's method of portfolio construction. The highest weights assigned to ITC Ltd, (24.98%) and lowest being Cipla Ltd (1.36%). By Investing in these 13 stocks, investors could earn monthly portfolio return 2.836% with associated risk of 2.36%. Based on the analysis, it is concluded that, Sharpe single index model of portfolio construction would help investors to earn better return.

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ASSESSING INVESTOR AWARENESS AND THE EFFECTIVENESS OF DEPOSITORY SYSTEMS IN DEMAT TRANSACTIONS



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Abstract

This study aims to examine the effectiveness of depository systems on dematerialized (demat) transactions with specific emphasis on investor awareness, service quality, and operational efficiency. Based on responses from 100 respondents in India, the research investigates how technological improvements, regulatory frameworks, and system utility can bolster investor confidence and make markets more transparent. Results reveal an age-dependent discrepancy in satisfaction levels, whereas gender did not significantly influence perceptions of service effectiveness. Technical issues, high fees, a lack of investor education, and other challenges appear as barriers to the best possible system utilization. The study highlights the need for technological advancements and cost-effective solutions to ensure customers continue to benefit from enhanced depository experiences. These insights help in understanding the impact of depository systems on investment behavior, offering actionable recommendations for stakeholders to foster greater trust and accessibility in securities trading.

Keywords: Depository Systems, Demat Transaction, Electronic trading, Operation efficiency, Investor Awareness

Introduction

The stock market is a platform for trading securities like stocks and bonds, providing liquidity and stability. Companies issue shares through Initial Public Offerings (IPOs) in the primary market, and investors trade these shares in the secondary market. Key exchanges in India include the BSE (established in 1875) and the NSE (established in 1992). Investment options include government securities (low-risk, fixed returns), mutual funds (diversified, professionally managed), equity shares (higher risk, ownership), and derivatives (high-risk contracts).

India's traditional stock settlement system, involving physical transfers, faced delays, theft, and inefficiencies. The Depositories Act of 1996 addressed these issues by allowing dematerialization and electronic transfer of securities, improving settlement speed and market efficiency. The depository system

consists of key components, including depositories (managing securities electronically), depository participants (intermediaries), beneficial owners (investors), and issuers (companies issuing securities).

India has two depositories: NSDL (established in 1996) and CDSL (established in 1999). Both facilitate electronic transfer and dematerialization of securities, offering services like transaction settlement, rematerialization, and securities lending. NSDL charges fees to Depository Participants (DPs), while CDSL provides a complete fee structure. Both use secure technology and offer additional services like Demat accounts and inter-depository transfers.

The depository system connects issuers and investors, enabling secure electronic transfers of securities. It mitigates risks such as loss or theft by holding securities in dematerialized form and facilitates securities-based lending. Depositories enhance security, eliminate the risk of loss or theft, and speed up transfers. They increase efficiency by reducing paperwork and brokerage charges, ensure secure transactions, and offer the convenience of storing various securities in one place.

Dematerialization converts physical securities into electronic form for easier management, while rematerialization reverses this process.

Depositories assist in IPOs, distributing shares to investor accounts. Trading and settlement occur on a T+1 cycle, and inter-depository transactions allow the transfer of securities between depositories. On-market transactions occur through exchanges, while off-market transactions are direct between parties. The depository system ensures secure, efficient, and transparent market operations.

Objective of Study

- To analyse the services provided by depositories to investors.
- To evaluate how depository systems improve the ease of conducting business for investors by enhancing transaction speed, reducing costs, and ensuring security in the stock market.

Review of Literature

- The literature review outlines existing research on depository systems, focusing on advancements in technology, regulatory changes, and investor awareness. It also identifies key gaps in the literature, which this study seeks to address by evaluating the impact of these factors on the effectiveness of depository systems and demat transactions.
- **Advancements in Depository Systems:** Advancements in digital depositories, regulatory changes, and technological improvements that have reduced settlement times and increased transparency. These developments provide a foundation for analysing their impact on investor awareness and the effectiveness of depository systems in demat transactions.
- **Technological Improvements and Transaction Costs:** Digital advancements in depositories have lowered transaction costs and improved efficiency. Their study underscores the need for global standardization to optimize these technologies' benefits, which can enhance investor awareness and satisfaction with demat transactions.
- **Growth of Indian Depositories:** India's depositories (NSDL and CDSL) have grown in efficiency due to dematerialization, leading to improved investor experiences. This growth provides a benchmark for evaluating how depository systems impact investor awareness and system effectiveness.
- **Investor Awareness and Education:** Existing literature indicates moderate investor awareness, which this study further examines by evaluating the role of education levels in shaping perceptions of depository services. This gap in knowledge highlights the need for further investigation into how education affects the effectiveness of depository systems.
- **Investor Satisfaction and Market Dominance:** NSDL's market dominance and fee structure lead to high investor satisfaction. Their findings help understand how awareness of major depositories affects investor confidence and the effectiveness of the system.

Table 3.1 Summary of Literature on Depository Systems: Research Findings and Methodologies

Author(s) / Year	Research Findings	Methodology
Smith J., & Johnson E. (2023)	Advancements in digital depositories (automation, block chain) reduce settlement times, enhance transparency. Regulatory updates are necessary.	Review of technological advancements in depository systems and their impacts.
Lee R., & Chen M. (2021)	Technological improvements in depositories reduce transaction costs and increase efficiency, with regional differences in practices.	Comparative study of global depository systems and their technological advances.
Bhatt A. (2012)	India's depositories (NSDL, CDSL) have grown in efficiency due to dematerialization, improving investor experiences.	Financial performance evaluation of Indian depositories.
Jain D., & Mehta P. (2012)	Investor awareness of depository services is moderate, with variation based on education level.	Survey of investor awareness and education levels related to depository services.
Chaudhary & Malik (2011)	NSDL controls 57% of the market; investors are satisfied with NSDL's fee structure.	Market analysis and survey on investor satisfaction with NSDL.

Research Methodology

100 respondents were selected for this study. This sample size is sufficient for analyzing the opinions and feedback of investors on the services provided by depository systems. The study uses descriptive statistics to analyze the data and derive meaningful insights. Statistical tools have been applied to measure the level of investor awareness, satisfaction, and challenges faced by users of depository

systems. The data analysis was conducted using Microsoft Excel and other statistical tools for tabulating and visualizing the findings effectively. Charts and graphs were used to present the data in a clear and concise manner.

Table 5.1 Overview of Variables and Their Application in Hypotheses

Variable	Definition	Measurement	Used In Hypotheses
Satisfaction	Investors' perception of service quality of depository systems	5-point Likert scale ranging from <i>Very Dissatisfied</i> to <i>Very Satisfied</i>	Hypothesis 1 and 2
Impact	Effect of depository systemson investment strategy (e.g., diversification, tracking, long-term planning)	5-point Likert scale across multiple sub-factors	Hypothesis 3 and 4
Challenges	Barriers/issues while using depository systems (technical problems, cost, service related concerns)	Categorical checklist (multiple-response format)	Hypothesis 5

Data Analysis

Table 5.2 The Frequency and Percentage Distribution of Respondents' Awareness and Preferences

S.NO.	GROUPS	FREQUENCY(f) N=100	PERCENTAGE (%)
1.	Gender		
	• Male	58	58.6%
	• Female	41	41.4%
2.	Age Group		
	• 20-30	54	54%
	• 30-40	29	29%
	• 40-50	12	12%
	• Above 50	5	5%
3.	Occupation		
	• Student	27	27%
	• Salaried Employed	36	36%
	• Business owner	17	17%
	• Professional	8	8%
	• Retired	1	1%
	• Other	11	11%

According to this distribution, the majority of responders are younger, working people, with a sizeable percentage of students and salaried workers. This implies that financial tools like Demat accounts are more likely to be used by these groups.

Table 5.3 The Frequency and Percentage Distribution of Respondents' Awareness and Preferences

S.NO.	GROUPS	FREQUENCY(f) N=100	PERCENTAGE (%)
1.	Awareness about share market		
	•Yes	94	94%
	•No	6	6%
2.	Familiarity with the depository system		
	•Yes	83	83%
	•No	17	17%
3.	Depository Company Preferred by respondent		
	•NSDL	44	46.8%
	•CDSL	30	31.9%
	•BOTH	20	21.3%

With a preference for NSDL as their depository business, the data shows that the respondents have a solid understanding of the share market and are generally familiar with depository systems, indicating a knowledgeable and active investor base.

Table 5.4 Frequency and Percentage Distribution of Respondents' Sources, Usage, and Challenges with the Depository System

S.NO.	GROUPS	FREQUENCY(f) N=100	PERCENTAGE (%)
1.	The initial sources for learned about depository		
	•Financial advisor	14	14.9%
	•Online resources	29	30.9%
	•Educational institutions	17	18.1%
	•Friends/Family	25	26.6%
	•Other	9	9.6%
2.	The depository services they use the most		
	•Account maintenance	56	60.2%
	•Dematerialization of securities	41	44.1%
	•Rematerialization of securities	24	25.8%
	•Transfer of securities	33	35.5%
	•Pledging & unpledging of securities	19	20.4%

3.	The depository system that influences their decision to invest		
	•Regulatory framework	50	52.2%
	•Transparency	56	59.6%
	•Quick and accurate settlement of transaction	37	39.4%
	•Secured transaction	20	21.3%
4.	The depository system has impacted their investment strategy		
	•Improved investment tracking	51	54.3%
	•Better portfolio diversification	52	55.3%
	•Easier market response	37	39.4%
	•Access to historical data	17	18.1%
	•No impact on strategy	5	5.3%
4.	The primary challenges they encounter while using the depository system		
	•Technical issues	58	61.1%
	•Lack of information	30	31.6%
	•High fees	39	41.1%
	•Delays in transactions	20	21.1%
	•Security concerns	8	8.4%

According to the study, respondents mostly obtain knowledge about depository systems from financial advisors and internet resources, with account maintenance and dematerialization being the most often utilized services. Their investment choices are influenced by transparency and regulatory frameworks, but their biggest obstacles are technical difficulties and exorbitant prices.

Results And Discussion

Hypothesis 1: -

H0: There is no association between age groups and satisfaction levels with services.

H1: There is an association between age groups and satisfaction levels with services.

Test Performed- ANOVA

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.447	3	3.482	5.277	0.002
Within Groups	58.736	89	0.660		
Total	69.183	92			

Interpretation: - In this case, the p-value (0.002) is below the 0.05, leading us to reject the null hypothesis and support the alternative hypothesis. This indicates that there is significant variation in service satisfaction across different age groups.

Hypothesis 2: -

H0: There is no significant difference in the mean satisfaction scores with depository services between males and females.

H1: There is a significant difference in the mean satisfaction scores with depository services between males and females.

Test Performed: Independent T- Test

Independent Samples Test											
		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
Are you 4 with the overall quality of services provided by depositories?	Equal variances assumed	0.15	0.69	1.03	90	0.152	0.304	0.189	0.183	-	0.552
		3	6	4						0.174	
	Equal variances not assumed			1.02	77.00	0.154	0.309	0.189	0.185	-	0.557
				5	5					0.178	

Interpretation: - In this instance, the p-value (0.696) exceeds 0.05, which means we accept the null hypothesis and reject the alternative hypothesis. This suggests that there is no significant difference in the mean satisfaction scores with depository services between males and females.

Hypothesis 3: -

H0: There is no significant relationship between age group and the impact of the depository system on investment strategy.

H1: There is a significant relationship between age group and the impact of the depository system on investment strategy.

Test performed: Chi-Square

- Age: Improved ability to track and manage investment

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.837 ^a	3	0.841
Likelihood Ratio	0.874	3	0.832
Linear-by-Linear Association	0.149	1	0.7
N of Valid Cases	94		
a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 1.79.			

- Age: Enabled better diversification of portfolio

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.913 ^a	3	0.075
Likelihood Ratio	8.418	3	0.038
Linear-by-Linear Association	3.207	1	0.073
N of Valid Cases	94		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 1.79.

Interpretation: -In this situation, the p-value of 0.841 and 0.075 are both greater than 0.05, which leads us to accept the null hypothesis and reject the alternative hypothesis. This indicates that age group doesn't significantly affect how the depository system impacts investment strategy.

Hypothesis: 4: -

H0: There is no significant relationship between gender and the impact of the depository system on investment strategy.

H1: There is a significant relationship between gender and the impact of the depository system on investment strategy.

Test performed: Independent T- Test

Independent Samples Test											
		Levene's Test for Equality of Variances		t-test for Equality of Means							
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
Improved ability to track and manage investment	Equal variances assumed	1.410	0.23	-	92	0.009	0.019	-0.244	0.102	-	-
			8	2.393						0.447	0.042
	Equal variances not assumed			-	80.05	0.010	0.020	-0.244	0.103	-	-
				2.378	3					0.449	0.040
Enabled better diversification of portfolio	Equal variances assumed	0.201	0.65	-	92	0.406	0.811	-0.025	0.105	-	0.184
			5	0.239						0.234	
	Equal variances not assumed			-	81.53	0.406	0.812	-0.025	0.105	-	0.184
				0.239	2					0.235	

Interpretation: - In this case, the p-value of 0.238 and 0.655 are both above 0.05, prompting us to accept the null hypothesis and reject the alternative hypothesis. This indicates that there is no relationship between gender and the effect of the depository system on investment strategy.

Hypothesis: 5: -

H0: There is no relationship between challenges encountered and the depository company (NSDL vs. CDSL).

H1: There is a relationship between challenges encountered and the depository company (NSDL vs. CDSL).

Test Performed: Chi-Square

- In which company are you a depository participant: Technical issues

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.203 ^a	1	0.652		
Continuity Correction ^b	0.043	1	0.835		
Likelihood Ratio	0.203	1	0.652		
Fisher's Exact Test				0.809	0.417
Linear-by-Linear Association	0.201	1	0.654		
N of Valid Cases	71				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.07.					
b. Computed only for a 2x2 table					

- In which company are you a depository participant? High Fees

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.353 ^a	1	0.067		
Continuity Correction ^b	2.518	1	0.113		
Likelihood Ratio	3.357	1	0.067		
Fisher's Exact Test				0.089	0.056
Linear-by-Linear Association	3.306	1	0.069		
N of Valid Cases	71				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.25.					
b. Computed only for a 2x2 table					

Interpretation: -Here, the p-value (0.652 and 0.067) exceed 0.05, leading us to accept the null hypothesis and reject alternative hypothesis. It suggests that there is no major relationship between challenges found and the depository company (NSDL vs. CDSL).

Conclusion

While previous studies have explored technological advancements in depositories and their impact on transaction costs (Smith &

Johnson, 2023), limited research focuses on how these systems contribute to the ease of doing business for investors. This study aims to address this gap by examining investor perceptions of service quality and operational efficiency in demat transactions.

According to the report, there are notable differences in how satisfied different age groups are with depository services, with younger investors probably appreciating technology innovations and older investors concentrating on more conventional offerings. Nonetheless, there was no discernible gender difference in satisfaction levels, suggesting that service delivery was balanced. Age and gender did not significantly affect the impact of depository systems on investment strategies, indicating that characteristics like portfolio diversification and investment tracking are equally beneficial to all investors. Furthermore, the choice of depository (NSDL or CDSL) was not substantially influenced by difficulties such technological difficulties and exorbitant prices, highlighting the necessity of general enhancements in operational effectiveness and customer service.

This study confirms that depository systems simplify the ease of doing business for investors by decreasing settlement times, increasing transparency, and improving portfolio management. Younger investors especially benefit from technological advancements, while challenges like high fees and technical issues still need to be addressed. Faster ownership transfers, less operational errors, and reduced fraud risks have all been made possible by the conversion of physical securities into electronic form. But problems still exist, like sporadic technical challenges that interfere with operations and high fees that can put off smaller investors. In addition to initiatives to reduce user costs, a more resilient technological infrastructure is required to further improve the system and prevent system breakdowns. Furthermore, boosting investor education regarding the advantages of the system and upgrading customer service would contribute to the development of higher confidence and trust, which would ultimately improve the overall investor experience and market efficiency.

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A STUDY ON CONCEPTUAL MODEL OF MANAGEMENT IN AUTOMOBILE INDUSTRY

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Abstract

This study aims to develop and analyze a conceptual model of management specifically tailored to the automobile industry, a sector characterized by rapid technological advancements, intense competition, and complex supply chains. The research explores key management functions—including planning, organizing, leading, and controlling—within the context of the automobile industry's unique operational challenges. By integrating contemporary management theories with industry-specific factors such as innovation cycles, production efficiency, quality control, and sustainability practices, the study provides a framework to enhance organizational performance. The conceptual model also addresses the influence of external environmental factors such as market dynamics, regulatory compliance, and globalization on management strategies. The findings contribute to a deeper understanding of effective management practices and offer actionable insights for practitioners aiming to optimize productivity, innovation, and competitive advantage in the automobile sector.

This paper presents a conceptual model that outlines the successive phases of automotive projects, highlighting the process planner's role in transferring knowledge to students in the field of project management for new product development in the automotive industry.

Keywords: process planner, automotive, project management

Introduction

Project management in the automotive industry has evolved significantly in recent years, driven by intense market competition and the rapid pace of innovation. Automotive companies face the challenge of developing new products efficiently while meeting stringent quality standards and customer expectations. Effective project management is crucial to navigate these complexities and deliver successful outcomes.

A widely recognized framework in automotive project management is presented by Göpfert and Schulz in their paper "Supply Chain Design During the Product Emergence Process –

The Example of the German Car Industry," published in the International Journal of Engineering Science and Technology in 2013. This paper explores the integration of supply chain considerations into the early stages of product development, emphasizing the importance of aligning logistics and production planning with design decisions. By incorporating logistics expertise early in the product emergence process, companies can optimize supply chain efficiency and reduce potential bottlenecks. The insights provided in this paper serve as a valuable reference for understanding the interplay between supply chain management and product development in the automotive sector.

Objectives of the Study

1. To examine the key management functions—planning, organizing, leading, and controlling—within the automobile industry context.
2. To identify industry-specific challenges and opportunities that influence management practices in the automobile sector.
3. To develop a conceptual model of management that integrates contemporary theories with the operational realities of the automobile industry.
4. To analyze the impact of external factors such as technological innovation, market competition, regulatory requirements, and globalization on management strategies.
5. To provide recommendations for improving management effectiveness aimed at enhancing productivity, quality, and sustainability in automobile organizations.
6. To contribute to academic literature by offering a tailored management framework applicable to the automobile industry.

Scope of the Study

This study focuses on developing and analyzing a conceptual model of management within the automobile industry. The scope includes:

- Management Functions: Exploring core management

processes such as planning, organizing, leading, and controlling as applied in automobile firms.

- **Industry-Specific Challenges:** Examining factors unique to the automobile sector, including technological innovation, production efficiency, quality standards, regulatory compliance, and sustainability initiatives.
- **Technological Influence:** Investigating how emerging technologies like Industry 4.0, electric vehicles, and automation impact management practices.
- **Strategic and Operational Levels:** Addressing both strategic management decisions and day-to-day operational management within automobile organizations.

Conceptual Model of Project Management in Automotive New Product Development

The automobile industry is highly complex and competitive, characterized by rapid technological changes, global supply chains, and stringent quality standards (Womack, Jones & Roos, 1990). Effective management in this sector must balance innovation, cost efficiency, and sustainability. Studies highlight the role of lean manufacturing and just-in-time (JIT) production systems as critical innovations improving operational efficiency and waste reduction (Ohno, 1988; Shah & Ward, 2003).

Moreover, the industry faces unique challenges such as regulatory compliance (emission norms, safety standards), fluctuating consumer preferences, and the integration of emerging technologies like electric vehicles (EVs) and autonomous driving (Bohnsack et al., 2014; Zhang et al., 2020).

This paper introduces a structured approach to new product development (NPD) within the automotive industry, emphasizing the integration of key roles throughout the project lifecycle. The proposed project team comprises:

Project Manager: Acts as the primary liaison between the client and internal teams, overseeing project planning, resource allocation, and timeline management to ensure alignment with client expectations.

Process Planner: Focuses on defining and optimizing manufacturing processes, ensuring that designs are feasible for production and meet quality standards.

Designer: Responsible for creating detailed product designs that balance functionality, aesthetics, and manufacturability.

Quality Planner: Develops and implements quality assurance strategies, conducting risk assessments and ensuring compliance with industry standards.

Cost Evaluator: Assesses and monitors project costs, identifying potential savings and ensuring the project stays within budgetary constraints.

This collaborative, cross-functional team structure facilitates concurrent engineering, where design, manufacturing, and quality considerations are addressed simultaneously, leading to more efficient product development cycles and improved product quality. The first phase presented in the proposed scheme, is the quote phase, and it is very important in winning new projects and ensuring future of the series production. Many companies do not treat seriously this phase, relying on their brand reputation, and relationships over time with their customers. This approach becomes increasingly inefficient because more and more suppliers from the Asian market launches in the automotive market. As a solution to the fierce competition in the market, in the above scheme the quote phase was included in development phases of new products, involving the design team since this phase in the project in order to presenting them the hard competition on the market, motivating them to develop new products in the best possible lowest price. Thus they realize the importance of this phase in order to winning new projects and motivate them to provide the best solutions. In this way the project manager can offer the best price to the customer.

Concept phase is the next phase, if the quotation phase was won, and is the phase in which the product begins to take shape, become palpable. After the concept is ready, A samples are built and sent to the customer for verification and validation of the concept. In contradistinction to the current approach used, process planner begins in this phase to define the process flow that will be used in serial production of the new product, checking difficulty of the manufacturability of product, and presents information about product to the designer in order to improve the concept of product, and avoid additional costs in the project when the product is ready to launch into production. Also in this phase Quality Planner start the D-FMEA (Design - Failure Mode and Effects Analysis) so necessary to develop a more reliable design which ensure a low risk of functionality for the finished product.

After the customer has studied the concept and samples A, validates the concept stage and begin final design phase. The design phase must be developed to reach maturity and design should be frozen in final form, as well as the list of materials that compose the product. The proposed management model, in this phase is formed the team of implementation of the project, this team is led by process planner. The team is composed from

representatives of each department: manufacturing, engineering, logistics, quality and acquisitions. Also in this phase process planner starts work on defining the inquiry sheets of material, fixture and equipment. The inquiry sheets are necessary for project buyer, representative of the purchasing department, to prospect the market and define the list of potential suppliers. Also important is the initiation of PFMEA in this phase, the activity is coordinated by process planner.

The team that worked in this activity is composed from process planner, quality planner, and one representative of each departments: production, engineering, and quality. Once the design is completed, samples B are built and checked within the team if it covered all customer requirements. If B samples do not meet all requirements, then must be reviewing the design. After the design is reviewed, C samples will be built, and together with the final design are sent to client for validation.

Once the design is approved by the customer, testing and qualification phase of product begins. What's new in proposed scheme is that in this phase the implementation team in series production (team coordinated process planner), is very involved in the project. Project buyer from purchasing department, places purchase order for new materials, devices and equipment. Representative of logistics check stocks of materials that are common in mass production projects, and new development project in order to increase the new orders with necessary quantities Also in this phase, process planner is closely related in relationship with supplier of devices and equipment and supplied them with all the technical details necessary to build equipment and devices. Very important is the planning and construction of samples required for testing and qualification samples, which must be ensured throughout the process planner.

Conclusion

As a conclusion, the above process is a simple description, exposed in a fluid layout, in order to be able to understand the continuity of projects phases of launching new products. As can be seen every phase shows special items allocated "Lesson Learnt", elements that ensure continuous improvement of the

activity of project management. This scheme can be used successfully in ISO TS certification audits, or in the customer audits in order to present the work and phases of the project in a developed and elaborated way, always a diagram or picture being more explicit than a thousand words together.

The scheme is very useful in teaching environment in initiating students in project management, but also in facilitating understanding of each phase of new product development projects, the scheme proposed conceptual model representing the skeleton of conceptual model.

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BUDGETING IN AN ACADEMIC LIBRARIES

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Abstract

Every study, nevertheless by what method small, has to conduct accompanying a budget. In most book repositories, the curator and his senior stick brace the budget, in accordance with financial norms circulated apiece experts. The budget is combed, vetted, if unavoidable, and certified apiece Library Executive Committee before it is shipped to the higher experts for last authorization and sanction. The common practice is to attend the designs and processes of the person organization. If they are distinctive help of a relatively restricted purview, some limited distinctive book repositories concede possibility be exempted from the preparation of a itemized budget. There are few means of calculating for preparing study budgets. Elements necessary for allocating too to be deliberate

Keywords: Budgeting, Academic , Libraries

Introduction

Budgeting is a critical facet of library management. Academic library s, like all different book repositories, demand adequate assets to supply status aids to their users. Budgeting in academic athenaeums is a complex process that demands painstaking preparation and study to ensure that the library 's possessions are efficiently assigned to meet the library's goals. This paper stating beliefs aims to determine an survey of budgeting in academic athenaeums and survey the challenges met in the allocating process Budgeting in academic libraries includes the distribution of budget to miscellaneous library movements and aids. The calculating process in academic library usually includes the library manager, the study staff, and added collaborators. The book repository manager arrange overseeing the calculating process and guaranteeing that the library 's possessions are used efficiently. The library stick determines input on the allocating process by recognizing regions that demand funding .The allocating process in academic book repositories is consistently detached into two phases: the readiness development and the exercise time. In the preparation state, the library stick prepares a budget suggestion, which involves upper class of the

athenaeum's anticipated expenses for the upcoming calendar year. The budget suggestion is inspected apiece library manager and additional colleagues, the one make pieces of advice and adaptations to the suggestion. In the exercise phase, the athenaeum stick and manager agree to implement the budget. This involves listening expenses, labeling districts of overspending or underspending, and making adaptations to the budget as essential. The book repository stick may too should to determine formal reports to the bibliotheca director and additional colleagues on the book repository's monetary performance Budgeting in academic library is not outside allure challenges. One of the most considerable challenges is the limited means feasible to the study. Academic book repositories often run on close budgets, that can manage difficult to determine value aids to consumers. In addition, the library stick grant permission lack the essential monetary expertise to efficiently control the athenaeum's money.

Objective of Library Budget

The objective of Budgeting of Academic Libraries is to assign cash available for use capably to guarantee that the library can determine enough and superior duties to its consumers. A library budget usually contains all the anticipated expenses and profit beginnings for the library, such as stick fees, group incident, facility support, science upgrades, and set up costs .The basic goal of a book repository budget search out balance the cash available for use possible accompanying the library's responsibility and aims, in addition to the needs and anticipations of its consumers. This includes constituting a budget that indicates the library's arrangement and supports the essential means for materials, stick, and conveniences to transfer characteristic services to friends. A imaginative athenaeum budget can help guarantee that the library has the inevitable money to assert and enhance its aids, conveniences, and accumulations, while too admitting for effective commercial administration and responsibility. Additionally, a study budget can help demonstrate the library 's profit and impact to partners and capital sources.

Resource Allocation

One of the primary objectives is to ensure efficient allocation of limited resources across various library functions—collections, staffing, infrastructure, digital services, and outreach programs.

Cost Control and Efficiency

Budgeting enables libraries to monitor expenditures, control costs, and reduce financial waste by tracking usage trends and evaluating return on investment.

Strategic Planning

Budgeting supports long-term planning by aligning financial resources with strategic goals, such as digitization, expanding access to databases, or improving user services.

Service Enhancement

Through prioritized budgeting, libraries can enhance services such as extended hours, user education programs, and technology upgrades.

Accountability and Transparency

A documented budgeting process ensures transparency and provides stakeholders—university administration, faculty, and students—with clear visibility into financial decisions.

Risk Management

By forecasting future financial requirements and constraints, budgeting helps libraries prepare for uncertainties like funding cuts or inflation.

Types Of Library Budget

There are various types of bibliotheca budgets, but in this place are few of the most prevalent one:

1. Operating Budget: This is the basic budget that covers the ordinary expenses of the bibliotheca, to a degree payrolls, serviceableness, supplies, and matters. It is frequently refreshed occurring.
2. Capital Budget: This budget is used for general grants in the bibliotheca, to a degree building repairs, renovations, and upgrades to science and supplies
3. Collection Development Budget: This budget is assigned for the purchase of bibliotheca matters, including books, periodicals, and mathematical possessions
4. Programming Budget: This budget covers the cost of study occurrences and activities, to a degree producer talks, laboratories, and different educational programs.
5. Personnel Budget: This budget is used to pay fees and benefits

for book repository stick, containing librarians, technicians, and support staff.

6. Grant Budget: This budget is used to fund distinguished projects or drives that are situated outside funding beginnings, in the way that grants from management instrumentalities or private foundations.

7. Contingency Budget: This budget is cancel to cover surprising expenses or crises that may stand all along the calendar year. Endowment Fund: This is a complete stock or bond fund that generates proceeds to support the bibliotheca's movements and ventures. It is typically settled through gifts and bequests

Required Elements In An Academic Library Budget

An academic library budget usually includes the following components

1. Personnel Costs: This involves payrolls, earnings, benefits, and related expenses for athenaeum stick, containing librarians, technicians, and support staff.
2. Collections: This contains the addition, licensing, and perpetuation of print and photoelectric resources in the way that books, journals, databases, and additional fabrics.
3. Facilities: This involves costs associated with construction sustenance, supplies, serviceableness, and added related expenses.
4. Technology: This contains costs guide fittings, software, socializing for professional or personal gain, and different concerning details money necessary for book repository movements.
5. Outreach and Programming: This involves costs guide events, programs, and aids that advance the athenaeum and allure resources to the society
6. Professional Development: This contains costs guide preparation and professional development event for study stick to advance their skills and information
7. Administration and Operations: This contains costs guide approximate bureaucratic and operational expenses in the way that writing materials, travel, and added related expenses. It is main for an academic athenaeum to assign its budget efficiently to guarantee that it can support prime resources and duties to allure consumers while further meeting allure monetary responsibilities.

Library The Budgeting Process

The allocating process for a library includes the growth of a

economic plan that outlines the bibliotheca's expected earnings and expenses for a likely magnitude, usually a fiscal year. This process is detracting for guaranteeing that the study has the unavoidable resources to support allure movements and supply duties to its consumers. Here are the key steps complicated in the book repository calculating process:

1. Review Previous Budget: The first step search out review the prior old age's budget to recognize areas place the library can have surpassed or fallen lacking allure economic aims.
2. Gather Information: The next step is to draw all the essential economic news, containing revenue projections, cost estimates, and some different appropriate data that will warn the allocating process.
3. Set Priorities: The book repository's administration team concede possibility authenticate arrangement for the looming year, to a degree extending accumulations, improving technology, or growing compute for clients
4. Estimate Revenue: The bibliotheca should estimate allure income for the impending period based on factual flows, current capital beginnings, and some anticipated changes in capital. Estimate Expenses: The athenaeum bear estimate allure expenses for the imminent old age, containing fees, benefits, supplies, perpetuation costs, and some different operating expenses.
5. Develop Budget: Using the revenue and payment estimates, the book repository can cultivate a budget for the forthcoming year. This concede possibility contain line parts each major cost type and profit beginning
6. Review and Approve: The library's administration group bear review and authorize the budget before it is endure the library's commanding board or added appropriate expert for final authorization
7. Monitor and Adjust: Once the budget is certified, the library bear monitor its real income and expenses during the whole of the year and create adaptations as wanted to guarantee that it stays on track to meet allure commercial aims. Overall, the book repository budgeting process is an essential component of direct economic administration and guarantees that the library has the possessions it needs to determine finest aids to allure patrons.

Advantages Of Library Budget

There are various benefits of bearing a budget for book repositories, including:

1. Improved group happening: With a budget working,

athenaeums can purchase new books, electronic possessions, and different fabrics that can reinforce their collection. This can entice more consumers and help meet their needs.

2. Better conveniences: Library budgets maybe used to improve conveniences in the way that table, ignition, and equipment. This can help constitute a wealthier and captivating atmosphere for users.

3. Professional incident: Libraries can use their budgets to purchase stick preparation and growth. This can improve the condition of duties given apiece library and help stick suspend or be suspended-to-date accompanying new electronics and trends.

4. Outreach programs: Library budgets maybe used to fund reach programs that can help reach new consumers and advance library services to the more expansive society.

5. Enhanced compute: Libraries can use their budgets to host occurrences, workshops, and additional programs that can engross and experience consumers. This can help build a stronger sense of society about the athenaeum and advance its aids. Overall, bearing a budget admits book repositories to support better services and money to their consumers, while too adopting in their own staff and conveniences.

Conclusion

Budgeting in academic book repositories is a complex process that demands painstaking planning and reasoning. The restricted finances possible to academic libraries and the changeful needs of book repository consumers pose meaningful challenges to the budgeting process. However, accompanying cautious preparation and direct management, academic book repositories can efficiently assign their money to provide feature aids to their consumers.

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