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PRESIDENCY SCHOOL OF MANAGEMENT

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Message from the Editor-in Chief's Desk

It brings me immense pleasure to present volume 5, Issue 1 of Applied Management Perspectives. This issue represents another important step in our Journal's journey towards research excellence and reflects our continued commitment to publishing meaningful and impactful management research.

Since its inception, Applied Management Perspectives has remained steadfast in upholding rigorous peer-review standards and promoting high quality scholarly work. One of the guiding principles of our journal has been to support the academic community by publishing research without financially burdening authors. Every research article is evaluated solely on its academic merit, ensuring fairness, transparency and scholarly integrity. Over the years, we have been privileged to receive valuable research contribution from academicians and scholars across India as well as several other countries reflecting the journal's growing national and international recognition.

A notable milestone in our journey has been the recent inclusion of the journal in index Copernicus and ROAD (Directory of Open Access Scholarly Resources). These achievements significantly enhance the visibility, accessibility and credibility of the journal while reaffirming our commitment to maintaining internationally accepted publishing standards. At the same time, we continue to work diligently to secure indexing in other reputable databases to further strength our global academic presence.

The articles featured in this issue explore a wide range of contemporary management themes, including artificial intelligence, customer experience, recruitment, banking performance, financial literacy, investment behavior, e-governance, gender studies and sustainability of quick commerce. Collectively these contributions offer valuable theoretical perspectives as well as practical insights that will benefit academicians, researchers, practitioners and policymakers alike.

I extend my sincere gratitude to our authors for entrusting us with their valuable research. I also extend thanks to our reviewers for their thoughtful rigorous and constructive evaluations. I am thankful to members of our editorial and Advisory boards for their unwavering dedications and continued support in maintaining the quality and integrity of the journal.

As we commence the fifth volume of Applied Management Perspectives, we reaffirm our commitment to publishing ethical, original and practice-oriented research that develops management knowledge and contributes meaningfully to society. It is my sincere hope that the research presented in this issue will inspire intellectual curiosity. Encourage further scholarly research and serve as a valuable resource for the global academic community.

Prof. Dr. Krishna Kumar
Editor-in-Chief
Applied Management Perspectives

Editorial Note

The Editorial Board is delighted to present **Volume 5, Issue 1** of *Applied Management Perspectives*, featuring a collection of peer-reviewed research articles that address emerging issues shaping contemporary management research and practice.

In this issue, we see many articles focused on the rising impact of technology, sustainability and evolving consumer and organizational trends. Articles published in this issue cover topics such as career expectations of women, AI powered customer experience, AI assisted recruitment, comparative performance of public sector banks, financial literacy and investment decisions, user acceptance of e-governance projects and sustainability of quick-commerce. We hope our readers will find these articles insightful and useful for their research work and teaching.

Every manuscript presented in this issue has undergone a rigorous double-blind peer-review process to ensure academic quality, originality and methodological accuracy. The Editorial Board remains committed to maintaining the highest standards of research ethics, transparency, and scholarly excellence.

We express our sincere gratitude to the authors for choosing *Applied Management Perspectives* as a platform to share their research. We also acknowledge the invaluable contributions of our reviewers and members of the Editorial and Advisory Boards whose expertise and dedication continue to strengthen the journal's academic quality.

As the journal enters its 5th volume, we remain committed to fostering management research, encouraging innovative thoughts and expanding the journal's global reach through wider indexing and international collaborations. We hope that the articles presented in this issue inspire meaningful discussions, support evidence-based decision-making and encourage further research addressing the evolving challenges of management and business.

Warm regards,
Editor
Dr. Virupaksha Goud
Applied Management Perspectives

EXPLORING CAREER ASPIRATIONS AND CHALLENGES FACED BY YOUNG WOMEN IN DAKSHINA KANNADA AND UDUPI DISTRICTS

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ABSTRACT:

Career aspirations play a significant role in determining not only the educational and professional development of young women, but also in shaping up their personal development. Therefore, without identifying the factors that influence the career aspirations of young women, it would be difficult to understand the path for gender equality and women's empowerment. The present paper, titled, Exploring Career Options and Challenges Faced by Young Women in Dakshina Kannada and Udupi Districts is an attempt to better understand the various factors that affect the career aspirations of young women students. Primary Data was collected from students of various Government First Grade Colleges in the study area with the purpose of identifying the various factors influencing women's education and also their career aspirations. A Structural Equation Model (SEM) was fit into the data which provides a clear framework for understanding the relationships among the various identified factors and more importantly helps in understanding the factors that strongly influence the career aspirations of young women.

KEYWORDS: Career aspirations, Dakshina Kannada and Udupi, Educational development, Gender equality, Structural Equation Model, Women's empowerment

INTRODUCTION

Dakshina Kannada and Udupi Districts provide a fertile ground for a study of this nature. The twin districts which were undivided until 1997, have high literacy rates, diverse communities with distinct languages and culture, relatively higher economic development, a significant chunk of migrated population and a unique blend of urban and rural settings and as such offer a singular microcosm for understanding the career aspirations of female students studying in government colleges. Government Colleges serve a broad swath of socio-economic spectrum and thereby allowing us a valuable opportunity to understand the career aspirations of young women and the factors that influence it. It must be noted here that understanding the career aspirations doesn't just fulfill the academic curiosity, but a proper understanding of the factors surrounding the career aspirations is important to unlock loftier goals such as gender equality and the working women's empowerment (Kabeer, 2018).

Young women fact significant obstacles during their educational journey. Parental Support, a key factor (Kaur, 2019), is influenced by societal expectations. Financial Constraints and lack of access to quality access resources can further hinder academic progress (Nayak & Mahesh, 2019). A young women's sense of control over the events in her life termed locus of control also impact their career aspirations significantly (Bandura et al, 2001). Self-efficacy, the belief of a person in their own ability to achieve a particular outcome, also influence academic engagement and career choices (ibid).

Societal influences play a key role in shaping career goals. Traditional norms and familial pressures can often prioritize marriage over professional pursuits (Ghosh & Roy 2017). Another key factor is the job availability in the local economy because they force the young women to compare the realities of the employment market as against one's own lofty goals (natal and Mahesh 2019), a problem compounded by the lack of mobility that young women generally face in traditional families. Early Marriages, a key feature in certain communities, can further disrupt both educational goals and career aspirations.

The socio-economic background of the students plays a significant role in the educational attainment and career aspirations of young women. Daughters whose parents are highly educated tend to have higher career aspirations (Chakraborty and Mukherjee (2020) which could be attributed to greater parental support for pursuing careers. Similarly, the higher income levels of the parents correlate with better career educational and career opportunities since families with greater resources can better support the ambitions of their daughter (Govt of Karnataka, 2020).

The purpose of this study is to have a comprehensive understanding of the career aspirations of young women studying in government colleges and the various factors that influence them. The idea is to better understand these elements and their interplay with each other so that the policymakers and educators have a clear enough view of them and are thus able to design interventions and policies to dismantle the obstacles faced by the young women and help them achieve their full potential.

LITERATURE REVIEW

Bourdieu's theory of social fields (Bourdieu, 1994b) conceptualizes career as a fight for a sequence of positions in one or more than one social fields. The interaction between personality and behavioural characteristics and one's vocational choices tends people to move into career fields that are congruent with their personal qualities (Boxford, 2021). Moreover, preferences concerning career settings may change over time: working in the more stable context of company world, accumulating experience in the world of work and growing responsibilities for family might on the one hand result in increased personal stability and more competencies to cope with external dynamics (Boxford, 2021). Further the Gen Z has well defined career expectations and career development plans but more likely the intrinsic and extrinsic factors determine their career aspirations (Barhate & Dirani, 2022).

In India, secure attachment to mothers, but not fathers, was found to relate to self-esteem and career decision self-efficacy, which in turn predicted career aspirations (Bhatia et al., 2023). Gender disparities in education and employment outcomes in India, often attributed to unequal access and societal attitudes that limit women's aspirations and the importance of self-efficacy for actual education and employment outcomes is largely mediated through increased aspirations. (Roy et al., 2018). General self-efficacy significantly and positively predicts employability among financially underprivileged college students and students with higher self-efficacy exhibit better employability skills and outcomes (Wang et al., 2022). Family background determines the career aspirations of the students. Family social status and parental educational aspirations significantly impact teenage career aspirations, ambition, and educational performance. Moreover, adolescents from higher-income families tend to have higher career aspirations and better educational outcomes (Ashby & Schoon, 2010).

Major barriers to women's career advancement include - Personal/family factors : Lack of family support, family responsibilities, work-life balance challenges, Institutional factors: Gender stereotyping, lack of transparency in promotions, inequity in compensation, lack of encouragement from superiors, Societal factors: Social taboos, perception of women as secondary earners, Organizational factors like heavy workloads and lack of resources for research appear to be more significant barriers than family commitments, Distance to workplace and lack of supportive facilities like day-care centers are practical barriers for women(M, 2022) . Women choose lower-paying, more flexible jobs to accommodate family responsibilities and even when controlling for ability, gendered beliefs persist that affects the career choices beyond rational economic decision-making (Correll, 1990).

The career aspirations of young women in India have garnered increasing attention as societal norms evolve and women’s participation in higher education and the workforce grows (Wolfers, 2021). In the coastal districts of Dakshina Kannada and Udupi in Karnataka, known for high literacy rates and economic vibrancy, young women face unique opportunities and challenges in pursuing their career goals (Dinesha, 2017). This literature review explores the career aspirations of young women in these districts, the barriers they encounter, and strategies to bridge the gap between their ambitions and actual outcomes. By synthesizing regional and national studies, the review identifies key themes, including educational attainment, socio-cultural norms, economic constraints, and institutional support, while highlighting research gaps specific to Dakshina Kannada and Udupi.

Educational Attainment and Career Aspirations

Dakshina Kannada and Udupi are among Karnataka’s most literate districts, with female literacy rates of 79.16% and 81.25%, respectively, in 2011, significantly above the state average of

68.13% (Dinesha, 2017). These high literacy rates, particularly in Udupi, which ranks among India's top districts, suggest a strong foundation for young women's career aspirations (Dinesha, 2017). Studies indicate that education plays a pivotal role in shaping career goals, with women in urban areas of these districts increasingly pursuing professional fields such as medicine, engineering, and management (Beaman et al., 2012). For instance, Mangalore University, established in 1980 to serve Dakshina Kannada, Udupi, and Kodagu, has been instrumental in fostering higher education, with a notable increase in female enrolment in STEM and management programs (Mangalore University, n.d.).

However, literacy and enrolment do not always translate into career success. Research on STEM fields reveals persistent gender gaps, with women in Dakshina Kannada and Udupi less likely to pursue engineering compared to biological sciences, reflecting societal perceptions of "suitable" careers for women (Smith et al., 2024). Beaman et al. (2012) found that exposure to female role models, such as women in leadership roles, can reduce these gaps by 20–32% in adolescents' career aspirations. In Dakshina Kannada and Udupi, where women's self-help groups (SHGs) and local governance initiatives like Kudumbashree have empowered women economically, such role models are emerging but remain underrepresented in high-status professions (Naik & Murari, 2025).

Socio-Cultural Norms and Gender Roles

Socio-cultural norms significantly influence young women's career aspirations in Dakshina Kannada and Udupi. Despite progressive educational metrics, traditional expectations around marriage and family responsibilities persist, particularly in rural areas (Japaridze et al., 2013). Wolfers (2021) notes that while women aged 25–34 in OECD countries are outpacing men in tertiary education, Indian women, including those in Karnataka, face pressure to prioritize domestic roles over professional ambitions. In Dakshina Kannada, with its diverse caste composition (e.g., 18% Billava, 12–14% Bunts), and Udupi, where Tulu is the dominant language, cultural practices often reinforce early marriage, limiting career exploration.

Qualitative studies highlight that young women in these districts aspire to careers in teaching, nursing, or banking—fields perceived as stable and compatible with family life (Naik & Murari, 2025). However, aspirations for leadership roles or unconventional fields like entrepreneurship are tempered by gendered stereotypes. For example, Chugh and Sahgal (2007) argue that role theory explains women's underrepresentation in leadership, as societal expectations dictate behaviours deemed appropriate for women, such as nurturing rather than assertiveness. In Udupi, where Yakshagana and other cultural traditions thrive, women's participation in public spheres is increasing, yet career aspirations remain constrained by familial expectations (Udayavani, 2022).

Economic Constraints and Financial Inclusion

Economic factors play a dual role in shaping young women's career paths in Dakshina Kannada and Udupi. These districts are economic hubs, with Dakshina Kannada known as the "Cradle of Indian Banking" due to its historical financial institutions (Dakshina Kannada, 2022). However, access to financial resources for education and entrepreneurship remains uneven, particularly for women from marginalized communities like Scheduled Castes (SCs) and Scheduled Tribes (STs), who constitute 11% of Dakshina Kannada's population (Dinesha, 2017). Research on financial inclusion underscores that women's access to banking and microfinance is critical for career advancement, yet studies specific to these districts are scarce (Naik & Murari, 2025).

SHGs have been transformative in Karnataka, empowering rural women through micro-entrepreneurship and skill development (Naik & Murari, 2025). In Udupi, SHGs have facilitated women's entry into small-scale businesses, such as handicrafts and food processing, but these ventures rarely scale to high-growth enterprises due to limited capital and market access. For young women, economic constraints often necessitate choosing careers with immediate financial returns, such as clerical jobs, over long-term investments like medical or engineering degrees (Beaman et al., 2012).

Institutional and Policy Support

Institutional support is critical for bridging the gap between aspirations and outcomes. The establishment of Mangalore University and government initiatives like the "Pusti" scheme, which rewards school development in Dakshina Kannada and Udupi, have strengthened educational infrastructure (The Hindu, 2025). However, career guidance and mentorship programs for young women are limited, particularly in rural taluks like Sullia or Karkala (Smith et al., 2024). Beaman et al. (2012) demonstrate that policy interventions, such as reserving leadership positions for women in village councils, enhance girls' aspirations and educational attainment, a model applicable to Dakshina Kannada's nine taluks.

Nationally, India's National Gender Policy (2015) aims to close gender gaps in STEM and leadership, but implementation in Karnataka's coastal districts lags due to inadequate awareness and resources (Smith et al., 2024). Programs like Anganwadi centres in Dakshina Kannada, which support early childhood education, indirectly empower young women by reducing domestic burdens, yet they do not directly address career development (Mangalore Today, 2021). The lack of targeted vocational training and job placement services in these districts exacerbates the mismatch between aspirations and opportunities.

CHALLENGES AND RESEARCH GAPS

1. **Gap Related to Career Aspirations:**

   Existing studies focus on women's empowerment through self-help groups in Karnataka (Nail and Murali, 2025). Moreover, the influence of regional factors, especially university programs in shaping the aspirations remains unexplored (Beaman et al., 2012; Nail & Murari, 2025). The studies on district-specific data will give more understanding on the diversity in career goals among women, which can plan educational policies as per the need in the area. There is a significant lack of research proposing and evaluating strategies to align young women's career aspirations with opportunities in Dakshina Kannada and Udupi. While mentorship and vocational training are recommended broadly (Smith et al., 2024), no studies explore their feasibility or impact in these districts, particularly in semi-urban and rural areas where access to such programs is limited (Naik & Murari, 2025).

2. **Gap Related to Barriers to Career progression**

   The present studies highlight the commonly known gender and economic constraints as barriers for Indian women (Chugh & Sahgal,207; Smith et al., 2024). Some studies have identified social, cultural and economic factors influencing the career progression of young women in Dakshina Kannada & Udupi. But impact of social factors and financial barriers as a challenge for women in the Dakshina Kannada district is not documented (Dinesha, 2017). More studies on factors influencing career aspirations among young women is demanded for a better understanding.

3. **Gap Related to Regional Contextual Influences:**

   Recent studies provide literacy data (Dinesha, 217) but have not explored how cultural practices like yakshagana or community norms shape career aspirations. There is a lack of context-specific research on how regional factors can be leveraged to support the career path of young women.

RESEARCH OBJECTIVES

1. To understand the career aspirations and the factors influencing their career aspirations
2. To identify the challenges faced by young women in reaching their career aspirations.
3. To Investigate Regional Contextual Influences: To explore how the unique socio-economic and cultural context of Dakshina Kannada and Udupi (e.g., high literacy, banking heritage, Tulu-speaking communities) shapes young women's career aspirations and the challenges they encounter.
4. To explore and analyse the factors determining the Career aspirations among women students.

SCOPE OF THE STUDY

This study is confined to only the women students between the age group of 18-25 years from the Government colleges of Dakshina Kannada and Udupi districts. Hence it is limited to the Dakshina Kannda and Udupi jurisdiction.

METHODOLOGY

The study has used both primary and secondary source of data collection. A sample size of 439 girl student respondents was collected from the Government colleges of Dakshina Kannada and Udupi districts. A structured questionnaire was administered and the data was collected. The data was coded and analysed using SPSS software. Secondary data was collected from various journals, books, reports and online sources.

LIMITATIONS OF THE STUDY

1. This study is limited to the semi-urban and rural students of Dakshina Kannada and Udupi districts
2. The analysis done and the conclusion arrived at are based on 439 respondents which may or may not be biased.
3. The respondents are between the age group of 17 to 25 years only. Basically, the students pursuing their under graduation and post-graduation and considered for the study.

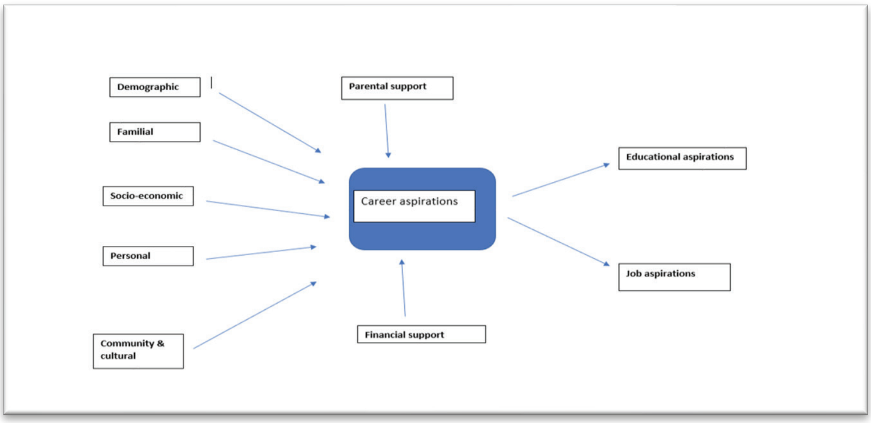


Fig 1: *Proposed Model based on the Literature Review*

source: literature review

DATA ANALYSIS AND INTERPRETATION

Demographic analysis: The study provided the following information based on the data collected.

		Count	Column N %
Age	17 - 20	218	49.8%
	21 - 23	220	50.2%
Marital Status	Married	4	0.9%
	Single	435	99.1%
Qualification	UG	194	44.2%
	PG	245	55.8%
Parental Education Levels	Illiterate	17	3.9%
	Below SSLC	180	41.0%
	SSLC	102	23.2%
	PUC	39	8.9%
	Graduation	74	16.9%
	Post-Graduation	27	6.2%
Monthly Family Income	Below ₹10,000	31	7.1%
	₹10,000 – 20,000	109	24.8%
	₹ 20,000- 30,000	127	28.9%
	₹ 30,000- 40,000	108	24.6%
	More than ₹ 40,000	64	14.6%
Purpose of education	Gaining Knowledge	77	17.5%
	For a degree certificate	19	4.3%
	Earning a job	340	77.4%
	Getting better matrimonial matches	3	0.7%
	No specific purpose	0	0.0%

Table 1: *Demographic Analysis,* Source: Survey

The above data on the personal profile reveals that 48.8% of the respondents are of the age group of 17-20 years and 50.2% of the age group 21-23 years. Among the respondents 44.2% were undergraduate students and 55.8% Post graduate students.41% of the respondents' parents were with the qualification below SSLC, 23.2% with SSLC qualification. A very less percentage of 3.9% were illiterates. 77.4% respondents intended to earn a job after graduation.

	Frequency	Percent
Marriage decisions taken at home	56	12.8
Higher fees in colleges	110	25.1
Lack of support from home	131	29.8
Parental/ Household unwillingness to send girls to hostels	28	6.4
Intrinsic (Own) Motivation	57	13.0
Convenience with transportation and proximity to the colleges	25	5.7
Co-Education system in the colleges	8	1.8
Gender discrimination	24	5.5
Total	439	100.0

Table 2: *Obstacles for Women's Education,* Source: Survey

The major obstacle for women's education with 29.8% was lack of support from home, 25.1% was higher fees at the institutions, with the least of 1.8% being co-education system in colleges.

	Total		
	Count	Mean	Standard Deviation
Interest/ Motivation	439	4.4	.7
Parental/Household Support	439	4.2	.7
Financial Situation	439	3.7	.9
Proximity of the college to one's home	439	3.6	.8

Table 3: *Major Factors Affecting Women's Education,* Source: Survey

The above table shows that Interest and motivation influences the highest with mean score of 4.4 and parental support with a mean score of 4.2.

	N	Minimum	Maximum	Mean	Std. Deviation
Control on completion of Education and further education	439	1	5	3.64	1.109

Table 4: *Control on education and future career planning,* Source: Survey

The above table indicates that on average with a mean score of 3.64 (SD of 1.109) indicate a **mean score of 3.64** (SD = 1.109) believe that completion of education and further education are moderately to highly under their control.

	Frequency	Percent
No	86	19.6
May be	12	2.7
Yes	341	77.7
Total	439	100.0

Table 5: *Career Aspirations,* Source: Survey

The above response table shows that 77.7% of the women students have career aspirations and 19.6% have no career aspirations.

Challenges	Mean	Standard Deviation
Lack of Interest/ Motivation	3.3	1.1
Lack of self confidence	3.4	1.0
Lack of Parental/Household permission	3.2	1.0
Marriage plans by parents	3.5	1.2
Parental unwillingness to allow your relocation for job purpose	3.4	1.0

Table 6: *Challenges for Career aspirations,* Source: Survey

The major challenges faced by women students on career planning is led by marriage plans by parents with a mean score of 3.5. Lack of self-confidence and parent's unwillingness for relocation for job purpose score 3.4 and lack of self-interest has a mean score of 3.3. all the above factors become equally important for the women to think beyond and reach their career aspirations.

	Total		
	Count	Mean	Standard Deviation
Interest/ Motivation	436	4.4	.7
Parental/Household Support	438	4.2	.8
Financial Difficulties in the Household	436	3.7	1.0
Availability of job near one's home	438	3.7	1.0
Community Attitude towards women working	438	3.8	.7
Work life balance	429	3.8	.9

Table 7: *Factors affecting Women's Career opportunities,* Source: Survey

The above table indicates that interest/motivation and parental support influences the highest with mean score of 4.4 and 4.2 respectively, whereas the other factors moderately influence the career opportunities having a mean score at 3.7-3.8 range.

	Frequency	Percent
Yes	186	42.4
No	170	38.7
May be	83	18.9
Total	439	100.0

Table 8*: Gender bias (male sibling given more freedom and opportunity in pursuing a career)*

Source: Survey

42.4% of the students have agreed that their male siblings are given freedom to choose their career compared to them, whereas 38.7% have disagreed to the statement.

		Job aspirations					
		No		May be		Yes	
		Count	Row N %	Count	Row N %	Count	Row N %
Age	17 - 20	54	24.8%	8	3.7%	156	71.6%
	21 - 23	32	14.5%	4	1.8%	184	83.6%
Marital Status	Married	0	0.0%	0	0.0%	4	100.0%
	Single	86	19.8%	12	2.8%	337	77.5%
Education	UG	53	27.3%	9	4.6%	132	68.0%
	PG	33	13.5%	3	1.2%	209	85.3%
Parental Education Levels	Illiterate	3	17.6%	2	11.8%	12	70.6%
	Below SSLC	32	17.8%	5	2.8%	143	79.4%
	SSLC	22	21.6%	2	2.0%	78	76.5%
	PUC	4	10.3%	1	2.6%	34	87.2%
	Graduation	19	25.7%	2	2.7%	53	71.6%
	Post Graduation	6	22.2%	0	0.0%	21	77.8%
Monthly Family Income	Below ₹10,000	8	25.8%	0	0.0%	23	74.2%
	₹10,000 – 20,000	22	20.2%	5	4.6%	82	75.2%
	₹ 20,000-30,000	30	23.6%	3	2.4%	94	74.0%
	₹ 30,000-40,000	11	10.2%	2	1.9%	95	88.0%
	More than ₹ 40,000	15	23.4%	2	3.1%	47	73.4%

Table 9: *Demographic variables with Job aspirations,* Source: Survey

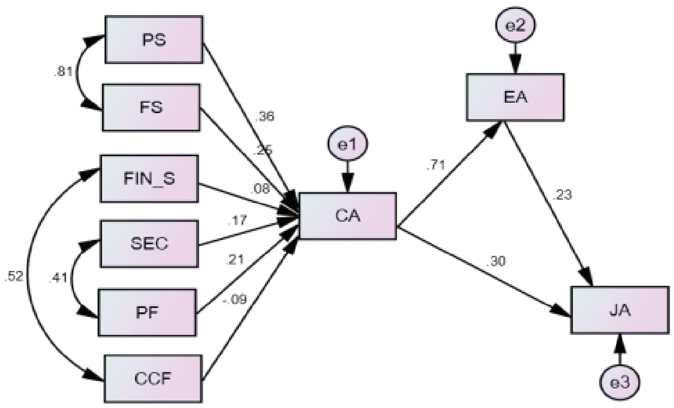
Job aspirations with	chi square value	d.f	p	
Age	9.258	2	0.010	Sig
Marital Status	Fishers exact test	.	0.560	NS
Education (current)	19.375	2	0.000	HS
Parental Education Levels	Fishers exact test	.	0.372	NS
Monthly Family Income	Fishers exact test	.	0.168	NS

Table 10: *Analysis on the Association between demographic variables and career aspirations*

The association between age and the career aspirations is significant. The association between the parental education level and the career aspirant is not significant and there is no association between income level and career aspirations.

Structured Equation modelling (SEM) – Path Analysis

Under Structured Equation Modelling (SEM) efforts were made to find the relationship between all these parameters together simultaneously. The analysis is given below



Expanded form of the abbreviations used in the model

	Threshold	Current Model
	<5 permissable	**4.184**
	>.90	**0.992**
	>.95	**0.987**
	>.80	**0.926**
	<.05-.10 moderate	**0.085**
TLI	**>.9**	**0.966**

Fig 2: *SEM -Path Model*

Source: Compiled using Survey Data

Standardized Regression Weights

	Estimate	P VALUE
CA <--- PS	.362	.000
CA <--- FS	.247	.000
CA <--- FIN_S	.079	.058
CA <--- SEC	.169	.000
CA <--- PF	.212	.000

CA	<---	CCF	-.088	.075
EA	<---	CA	.706	.000
JA	<---	CA	.296	.000
JA	<---	EA	.228	.000

Model Fit Analysis

Analysis of Model fit indices showed that all the indices are at the permissible level. It shows that the model is fit and impact of one parameter on the other can be considered. SEM analysis can be taken into consideration for the study. SEM analysis showed that Parental support (PS) has an impact on Career aspirations, Family support (FS) showed that financial resources provided greater flexibility to pursue educational and Career aspirations. Although the Beta is positive, the relationship between Financial Support (FIN-S) and career aspirations is not significant with p value being 0.058. Financial support alone may not substantially improve the Career aspirations. Socio-economic condition (SEC) significantly contributes to reaching the Career aspirations. Personal factors (PF) have a significant positive influence on Career aspirations, indicating that motivation, self-confidence contribute to career aspirations. Community and Cultural factors (CCF) had a negative relationship with Career aspirations (Beta value is -0.088) and has no statistically significant effect on career aspirations (p value is > 0.05). Career aspirations have the strongest relationship with Job aspirations (JA) in the model and Career aspirations significantly influence Educational aspirations (EA) among the students. The Beta values of .296 showing the effect of Career aspirations on Job aspiration and beta value of .228 showing the effect of Educational aspirations on Job aspirations the details prove that the model is completely verified and model has been accepted with Structured Equation Modelling (SEM)-Path model.

The standardized coefficient of **0.362** indicates a strong positive influence of parental support safety on career aspirations being the strongest predictor among the other variables. Students having parental support are more capable of reaching their career aspirations. Individuals who feel secure and supported are more capable of adapting to career challenges.

These findings suggest that **career aspirations act as the central mediating construct in the model**, linking personal, social, and financial factors to educational and job-related aspirations.

The SEM results confirm that the proposed model demonstrates **good overall fit and strong explanatory power**. Parental support, family support, social environment, and personal factors significantly enhance career aspirations, while financial skills and community and cultural challenges do not exert significant effects. Career aspirations emerges as the most important determinant of educational and job aspirations, highlighting its critical role in shaping future career outcomes.

KEY FINDINGS

In the present study, the SEM analysis explains the relationship among the factors determining the career aspirations among young women.

1. Significant predictors of Career Aspirations: The SEM shows that Parental Support is the most powerful predictor with a beta = 0.362, p<0.001, which indicates how parental support becomes a major

determinant to reach their career aspirations. Family support also shows a significant influence on career aspirations with a beta =0.247, p<0.001, which indicates that family support also has great influence in reaching their career aspirations. Personal factors (beta = .212, p<0.001) demonstrate that self-motivation and self-confidence also reinforce aspirations. Finally, social environment exhibits a significant influence on the career aspirations among young women.

2. Non-significant Predictors of Career Aspirations: Two of the identified factors- Financial Support and Community & Cultural factors have failed to meet the threshold for significance level at 5%. Financial support with p=0.058 implies that financial support does not notably influence the career aspirations among young women. Similarly, Community & Cultural factors, with a negative beta (-0.088) and p=0.075, display a statistically insignificant relationship with Career Aspirations.
3. Downstream Aspirations and Major Outcome Relationships:
    a. **Career Aspirations to Educational Aspirations:** This pathway represents the strongest structural relationship identified in the entire model (beta = 0.706, p < 0.001), proving that the young women who are highly adaptable are predominantly inclined toward exploring education and self-reliance.
    b. **Career Aspirations to Job Aspirations:** Exhibits a robust, statistically significant positive path (beta = 0.296, p < 0.001), indicating that greater adaptability directly raises standard employment ambitions of young women.
    c. **Educational Aspirations to Job Aspirations:** Displays a significant positive relationship (beta = 0.228, p < 0.001), which reveals that interest in education and standard employment goals of the young women actively complement and reinforce one another rather than creating a career conflict.

CONCLUSION

This study shows a striking gap between ambition and opportunity for young women studying in the government colleges of Dakshina Kannada and Udupi districts of the Karnataka State of India. While educational advancements in the region have cultivated exceptionally strong career and entrepreneurial aspirations, such ambitions are actively hindered by socio-cultural constraints of the region, familial restrictions on mobility which is typically placed on young women, and a lack of support at home.

The structural model proves the importance of a foundation of parental support and financial security on a young woman student's career aspiration. Ultimately, higher literacy rate is only a necessary but not a sufficient condition in translating the high aspirations of the young women students studying in government colleges into actual workforce empowerment. In order to achieve actual workforce empowerment of women, targeted institutional interventions—such as context specific guidance by local mentors and financial relief—coupled with a concerted effort to shift conservative community attitudes toward women in the workforce.

Young women in Dakshina Kannada and Udupi exhibit strong career aspirations, driven by high literacy rates and access to educational institutions like Mangalore University. However, socio-cultural norms, economic constraints, and limited institutional support create significant barriers to realizing these ambitions. While SHGs and policy interventions show promise, targeted efforts are needed to address gendered stereotypes, enhance financial inclusion, and provide mentorship. Future research should prioritize longitudinal studies and qualitative insights specific to these districts to better understand and bridge the gap between aspirations and outcomes.

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IMPACT OF ARTIFICIAL INTELLIGENCE ON CUSTOMER EXPERIENCE IN E-COMMERCE

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ABSTRACT

E-commerce has grown swiftly and Artificial Intelligence (AI) technologies becoming more and more vital in order to enhance the client expertise and company performance. The integration of AI technology with online shopping has revolutionized various aspects of the e-commerce industry, including chatbots, recommendation systems, predictive analytics, and virtual assistants, with their role in delivering personalized, efficient, and interactive customer experiences. This study aims at finding how AI affects the customer experience in e-commerce platform, with special emphasis on customer satisfaction, engagement and purchasing behaviour. The research was actually descriptive and analytical and utilized main data collection method through structured questionnaires with consumers online as the respondents. Data collected was analysed using statistical methods such as percentage analysis and correlation to interpret the data and establish relationships between the AI features and customer experience. The results suggest that AI technologies can greatly improve the shopping experience, more precisely: it helps to understand the customers better, accelerates customer support, makes it easier to shop and aid in decision making. Analysis also shows positive correlation between the use of Artificial Intelligence can lead to an increase in customer satisfaction. But a few did have concerns about privacy, inaccurate suggestions and decreased human interaction. Overall, the study signifies the essential part that Artificial Intelligence (AI) plays in changing the character of customer experience in eCommerce, by supplying highly customised and data-driven customer service services, enhancing operational efficiency, and boosting customer connections.

KEYWORDS: - Artificial Intelligence, Chatbots, Customer Experience, E-commerce, Personalization.

INTRODUCTION

Artificial Intelligence is generally described as the ability of machines to replicate human intelligence, which encompasses learning, reasoning, and making decisions. Soni V. D. (2020) states that artificial intelligence facilitates automation and enhances efficiency through the analysis of vast amounts of data to produce insights. In a similar vein, Areiqat et al. (2021) depict AI as a revolutionary technology that improves organizational effectiveness and innovation by facilitating smart decision-making processes. Additionally, Daqar and Smoudy (2020) highlight that AI enhances service provision and boosts operational effectiveness in various sectors. E-commerce involves the buying and selling of products and services via online platforms on the internet. Nimbalkarand Berad (2021) state that e-commerce has quickly grown because of developments in digital technologies and a rise in internet accessibility. Moreover, Omenazu S. (2021) points out that contemporary e-commerce platforms depend significantly on technology to deliver effective services and uphold their competitiveness in the worldwide market.

Customer Experience (CX) refers to how customers feel and the satisfaction they get from their interactions witha company during the entire buying process. This includes different moments like product search, purchase, delivery, and after-sales service. Lemon and Verhoef (2016) note that customer experience includes various aspects, such as cognitive, emotional, and behavioural responses. Meyer and Schwager (2007) also explain that customer experience is the internal and personal reaction customers have from any direct or indirect contact with a company.

In recent years, the significance of Artificial Intelligence in Customer Experience has been in the spotlight. AI technologies enable companies to offer a quicker, better and individual services. Huang and Rust (2018) state that AI can enhance service quality by eliminating repetitive work. This enables companies to concentrate more on strategies that have the customer in mind. By leveraging predictive analytics and smart automation, AI can enhance customer interactions, results in higher engagement and satisfaction, a mentioned by Davenport et al. (2020). For e-commerce, where consumers and merchants never meet face-to-face, it's critical to the customer experience. Digital interfaces are the only ones that consumers rely on, which is why website usability, personalization, and responsiveness are crucial. Rose et al., (2012) state that a good online experience has a tremendous impact on trust and purchase intention. Likewise, Klaus (2013) notes that a seamless and uninterrupted online experience is imperative for keeping customers and building loyalty on an e-commerce site. The application of intelligence in e-commerce has definitely enhanced the functioning of ecommerce businesses and interactions with customers. These technologies, such as chatbots, recommendation systems and predictive analytics, improve businesses and use A.I. to streamline processes and provide services. Artificial intelligence boosts decision-making and offers insights into consumer behaviour, all of which helps to improve the performance of business, according to researchers Bawack et al. (2022). Likewise, Sinha et al. (2024) Stress that artificial intelligence tools boost efficiency and enhance customer engagement in online shopping environments. Personalization, quicker service response, cost reduction and improved customer preference prediction are the primary advantages of intelligence in e-commerce. Customer experience is very important for the success of e-commerce platforms and artificial intelligence plays a role, in enhancing it. According to Balasubramanian G. (2024) AI personalization is the key to a huge boost in customer satisfaction. Enhances customer satisfaction and engagement. Artificial intelligence helps to make customers feel special. Likewise, Megdadi et al. (2025) discovered that artificial intelligence chatbots can help with responsiveness and usability which in turn can impact service quality positively. Moreover, Nguyen & Vo (2025) state that AI marketing strategies have a positive impact on customer satisfaction and loyalty within e-commerce platforms. In eCommerce, the role of intelligence is significant in the customer experience. It can help businesses know what their customers are going to do, and make their experience. Srinivas Kumar et al. (2026) say that artificial intelligence helps. Improve CX by leveraging sophisticated analytics models. But there are issues such as data privacy and trust that are still a concern. Reddy V. M. In intelligence systems, (2023) states that security of the data is critical to maintaining trust with its customers.

NEED OF THE STUDY

With the growth of e-commerce, online shopping has completely changed the way consumers buy products and services online. As the online retail landscape grows increasingly competitive, businesses are turning to Artificial Intelligence (AI) tools and solutions like chatbots, recommendation engines, predictive analytics, and virtual assistants to enhance their customer experiences and streamline operations. The growing significance of these AI-powered tools in shaping customer satisfaction, engagement, and purchasing decisions has made them vital to the research and business worlds. This research is crucial for analysing the impact of AI applications on improving convenience, personalization, and customer support within e-commerce platforms. It also assists in pinpointing customer attitudes and opinions about the pros and cons of AI, such as privacy issues, inaccurate suggestions, and the lack of human interaction. The study results can help e-commerce businesses in creating a new AI strategy that utilizes automation and human interaction to build customer trust, satisfaction, and shopping experience in the digital world.

STATEMENT OF THE PROBLEM:

Companies are adopting AI in e commerce with tools like chatbots, recommendation systems, and automated services to improve customer experience, with the use of artificial intelligence in eCommerce having picked up significantly. However, while popular, no clear understanding exists of the effect they have on customer satisfaction, customer engagement and shopping experience.

Although numerous studies today examine the positive attributes of these technologies' interaction with customers' experiences, they have not fully captured customers' actual experiences and perceptions. Not to mention, AI's adoption is restricted in the ecommerce industry because of issues such as lack of trust in the technology, irrelevant product ideas, and reduced human interaction.

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It is crucial to understand the effectiveness of AI tools and the challenges faced by customers when evaluating the impact of AI on overall customer experience in e commerce.

OBJECTIVES:

- To understand how Artificial Intelligence tools are being adopted and used by e-commerce companies.
- To evaluate how effective these AI tools are in improving customer experience, satisfaction, and engagement in e-commerce.
- To examine the key challenges faced by e-commerce companies in using AI tools.

PILOT STUDY:

A pilot study was carried out in order to test the reliability of the questionnaire to measure the effect of Artificial. Insight into customer experience in Ecommerce. Twenty-seven responses were used in the pilot study. The questionnaire included 15 questions related to AI-based recommendations, personalisation, ease of use, and other areas. customer satisfaction. Reliability analysis by Cronbach's Alpha was obtained with the value of 0.78, which is considered as acceptable reliability. internal consistency. Hence, the instrument was considered reliable and used for the main study.

Sl No	Construct	Number of Items	Cronbach's Alpha	Reliability Level
1	AI Impact on Customer Experience in E-commerce	15	0.78	Acceptable

RESEARCH METHODOLOGY:

This research is descriptive research because it allows knowledge about the perceptions, attitudes, and experiences of customers in relation to features related to Artificial Intelligence (AI) in e-commerce, such as recommendations and chatbots. A quantitative research method is used for the data is collected in the form of numbers with a structured questionnaire, enabling the customer response data to be statistically analysed. Data from the study was primary data, obtained by a questionnaire which is distributed online (Google Forms) with items measured on a 5 point Likert scale from very strongly disagree to very strongly agree. This is a convenience sampling method, as respondents are those who had experience with AI-powered e-commerce platforms due to ease of access and time constraints. The respondents in this study are 87.

DATA ANALYSIS TOOLS AND TECHNIQUES:

The collected data was analysed using statistical tools such as Microsoft Excel. The following techniques were applied:

- **Percentage Analysis** – to understand demographic distribution
- **Mean Score Analysis** – to measure the level of agreement

- **Reliability Analysis (Cronbach's Alpha) and standard deviation** – to test consistency

SCOPE OF THE STUDY:

The research explores the use and implementation of Artificial Intelligence (AI) tools in e-commerce, detailing the incorporation of technologies including chatbots, recommendation systems, and personalized marketing into business processes. It assesses the impact of these AI solutions on improving customer experience, including aspects like customer satisfaction, engagement, and interaction with e-commerce platforms. The research also explores the challenges e-commerce companies face in integrating AI, like technical, operational, and user challenges. The study examines the pros and cons of using AI, and will offer a detailed view of how AI is influencing today's e-commerce landscape. The outcomes will enable organizations to make informed decisions on how to leverage AI to improve the customer experience and achieve success.

LIMITATIONS:

- The research focused solely on certain AI technologies, such as chatbots and recommendation systems, rather than others that could affect customer experience, such as some advanced AI tools or those in the early stages of development.
- Data collection took place in a limited area and may not be representative of the more diverse e-commerce population.
- The study divided selected e-commerce platforms into three of the most popular platforms — Amazon, Meesho, and Flipkart — excluding all the other e-commerce platforms available which might reduce the comprehensiveness of the results.
- Time constraints, small and specific sample, self-reported data may lead to some bias and perception errors, lack of awareness of Artificial Intelligence among samples, which may impact accuracy and generalizability.

LITERATURE REVIEW:

1. AI-enabled Chatbots have the potential to significantly improve the customer journey of e-commerce applications, potentially leading to greater responsiveness, usability, and customization, as discussed by Megdadi et al. (2025, p.106). Customers can interact with a chatbot immediately for instant replies, which will increase customer satisfaction and engagement, and take customized ideas and suggestions. Finally, the strategic advocacy of chatbots can significantly improve customer interactions, boost growth and give a boost to a competitor from the digital era.
2. AI Chatbot Marketing Strategies play a crucial role in boosting the customer experience in eCommerce, as Nguyen and Vo (2025) mention. Chatbots can be a great support in providing prompt assistance, customising the interaction with the customer and facilitation in the resolution of issues, hence enriching the shopping experience. A chatbot system can prove to be effective for meeting these goals – such as increasing customer satisfaction and customer

retention – and improving business performance.

3. Srinivas Kumar et al. (2026) highlight that today AI technologies are driving customer experience in eCommerce, especially through the power of advanced analytics metrics and models. AI can even be used to understand customer behaviour, predict their needs and provide personalised services to the customers. The seamless integration boosts the decision-making process, accentuates services levels and adds to the future success of the business.
4. As indicated by Bawack, et al., (2022) AI has revolutionized the E Commerce industry because of its automation, customization, and decision-making capabilities, which are rooted in data. These are just a few potential applications of AI in the recommendation system and Chatbots, all of which have the potential to enhance customer engagement and streamline operations. As such, it has become essential for companies to adopt AI technologies to remain competitive and innovative.
5. Chatbots and natural language processing (NLP) have turned out to be of great significance to enhancing the eCommerce customer experience per Bukhari et al., 2025. These tools can help you comprehend customer inquiries and give them the correct response, while enabling effective communication. This equates to higher levels of satisfaction, trust and customer satisfaction.
6. AI tools can benefit eCommerce businesses in multiple ways, such as personalization, automation, and predictive analytics, which can greatly enhance customer experience, as mentioned by Nguyen et al., (2026). Helps a business to understand what their customers need and to offer a customised service to them to increase engagement and performance of the business.
7. As mentioned by Sinha et al., (2024), 7. Using AI can play a vital part in enhancing the shopping experience online, with tailored suggestions, virtual assistant, and customer service. All these innovations will make business easier and accelerate decision making, which will further improve customer satisfaction and promote businesses growth.
8. According to the study by Areiqat et al. 2021, integration of AI into e-commerce has an all-encompassing influence on the efficiency, decision-making, and customer interaction. AI can handle tasks, process huge amounts of data and provide customized experiences, resulting in business benefits.Actually, AI can automate tasks, handle massive amounts of data and generate personalized experiences which provide a competitive advantage for businesses.
9. According to, AI has a lot of advantages in E commerce management, such as automation, service improvement, decision making, and challenges include data privacy/costs of implementation. With effective use, AI

can streamline processes and improve customer satisfaction, more and more effective.

10. Data privacy and security issues are crucial in e-commerce systems as discussed by Reddy (2023). With the increasing adoption of AI because of digitalization, companies should implement strong data base solutions that protect customer information, build customer trust and complies with regulatory standards.
11. According to Ajiga et al. (2023), artificial intelligence plays a crucial role in improving customer experience when it comes to digital marketing, as it allows for content personalization, targeted advertising, and automated interactions. All these features not only foster improved engagements, but they also improve customer satisfaction and buyer decision making.
12. AI's primary impact on e-commerce and digital marketing is believed to be through automation, data analysis, and personalization, according to Saleh and Zeebaree (2025). These innovations help companies improve their customer experience, marketer efficiency and performance results.
13. According to Balasubramanian (2024), customer engagement and satisfaction in the E-Commerce industry can be improved through the use of AI-driven personalization. Customer behaviour analysis and preference can direct companies to provide tailored customer experiences that should enhance loyalty and drive sales activities.
14. Soni (2020) describes the new roles that artificial intelligence plays in e-commerce such as automation, recommendation systems and customer service enhancement. Artificial Intelligence is a great resource for businesses to increase their efficiency, save money, and enhance user experience.
15. Daqar and Smoudy from the year 2020 say that artificial intelligence is really good at making customers happy. It does this by giving them services that're just for them answering them quickly and making sure they have a good time talking to the business. Artificial intelligence helps businesses understand what customers want and then gives it to them.
16. Nimbalkar and Berad from the year 2021 think that artificial intelligence is very important for shopping. It helps businesses work smarter. Makes customers happier. Artificial intelligence can do things automatically give customers what they want and help businesses make decisions. This is good for businesses because it helps them grow.
17. Chie and the other people from the year 2023 found out that customers are happy when artificial intelligence is used for shopping. Artificial intelligence tools make things easy for customers give them what they want and make sure they get service. This makes customers very happy, with the business. Artificial intelligence is used to make customers happy. It works very well.

18. Raji and his team said in 2024 that when we use intelligence to make things personal for each person it really affects how people buy things online. Businesses can look at what people like. What is popular and then they can make special experiences for each person. This makes people like the business more they are happier and they are more likely to buy things.
19. Febriani and his team found out in 2022 that artificial intelligence and online marketing have an effect on whether people want to buy something or not. They said this is because artificial intelligence helps make things personal and makes it easier for businesses to talk to people. When businesses do this people think they are better. It makes them want to buy things.
20. Adam and his team said in 2020 that using intelligence to make chatbots for customer service is a good idea. These chatbots can talk to people away and always help them, which makes people happy, with the service. The chatbots also make it easier for people to do what they need to do. They help businesses provide better service.

DATA ANALYSIS:

TABLE 1: DEMOGRAPHIC PROFILE OF RESPONDENTS:

Variable	Category	Respondents	%
Gender	Male	50	57.5
	Female	37	42.5
Age	Below 20 years	3	3.5
	20-30 years	65	74.7
	30–40 years	10	11.5
	Above 40 years	9	10.3
Education	Student	24	27.6
	Employed	49	56.3
	Business	4	4.6
	Others	10	11.6

Source: Primary Data

ANALYSIS:

The age profile of respondents suggests that the respondents were fairly diverse with a preponderance of young people. The population of the respondents is evenly distributed among males (57.5%) and females (42.5%) which gives a male/female distribution of 60:40. The age group of the respondents is fairly young as a large proportion (74.7%) aged between 20 and 30 years, with most of this group being more active in the use of digital technologies. Other age groups responded less in comparison, suggesting that there is limited involvement by older people. When it comes to the occupation, the most frequent occupation is employed persons making up 56.3% of the population. This suggests that the study relies on the working professionals as its members. The student community contributes 27.6% of the respondents which is significant. Percentages for "business" and other jobs are low and very small, which indicates that the participation in these actions is not very high. The overall profile of the population indicates that the conclusion of the study would apply to the younger, better-educated, and employed.

TABLE 2: CUSTOMER PERCEPTION TOWARDS ARTIFICIAL INTELLIGENCE FEATURES IN E-COMMERCE

1 Strongly disagree	2- Disagree	3- Neutral	4- Agree	5- Strongly agree

Particulars	Strongly Disagree Count	%	Disagree Count	%	Neutral Count	%	Agree Count	%	Strongly Agree Count	%	SD
AI-based recommendations match my preferences	3	3.4	9	10.3	40	46	31	35.6	4	4.6	0.84
AI tools make online shopping easier and faster	5	5.7	5	5.7	27	31	38	43.7	12	13.8	0.99
AI improves my overall shopping experience	4	4.6	7	8	29	33.3	28	32.2	19	21.8	1.06
Personalized suggestions influence my purchase decisions	5	5.7	8	9.2	30	34.5	38	43.7	6	6.9	0.95
AI improves the speed of	3	3.4	9	10.3	24	27.6	35	40.2	16	18.4	1.01

resolving my queries or issues											
AI helps me make better purchase decisions	4	4.6	4	4.6	32	36.8	38	43.7	9	10.3	0.91
AI sometimes provides irrelevant or inaccurate suggestions	3	3.4	7	8	29	33.3	44	50.6	4	4.6	0.84
I prefer human interaction over AI in customer service	4	4.6	10	11.5	18	20.7	38	43.7	17	19.5	1.06
AI tools sometimes provide inaccurate or irrelevant recommendations	3	3.4	9	10.3	35	40.2	37	42.5	3	3.4	0.84
AI features can sometimes be confusing	4	4.6	9	10.3	32	36.8	40	46	2	2.3	0.86

Source: Primary Data

ANALYSIS:

The study analyses that most people think positively about using AI in online shopping, but it's not all good. More than half of the respondents indicate that AI improves shopping, and more than half of them believe AI improves their shopping choices. More than half also cite the influence that customised recommendations have on their final purchases, and numerous respondents admit to AI helping to speed up responses to their queries. But many parts of the population are conflicted on many of these questions – experiences allegedly differ. Some questions have been raised loud and clear, as well. About half the people say AI sometimes throws out totally irrelevant or wrong suggestions. You also have alot of individuals having difficulty comprehending the features of AI. But, as a matter of fact, there is still a room for human involvement, as 63% of the people would rather communicate with a real human when it comes to customer service.

TABLE 3: CUSTOMER INTERACTION WITH AI FEATURES IN E-COMMERCE

1 Never	2- Rarely	3- Sometimes	4- Often	5- Always

Particulars	Never	%	Rarely	%	Sometimes	%	Often	%	Always	%	SD
I frequently interact with AI features while shopping online.	7	8	31	35.6	37	42.5	5	5.7	7	8	0.98
AI-based recommendations often feel repetitive and limit my exposure to new products	5	5.7	15	17.2	48	55.2	14	16.1	5	5.7	0.89

Source: Primary Data

ANALYSIS:

The level of interaction with the characteristics of intelligence in the process of online shopping is in the medium level can be seen from the analysis. Most participants (42.5%) reported using these tools also “Sometimes” while making online purchases, and 35.6% reported their use during an online purchase was “Rarely.” That means that if these shoppers detect that they need to use these shopping tools one day, they will use them, but not regularly. In terms of recommendation systems, 55.2% of the respondents believed that the recommendations, at times, start repeating themselves and limit their ability to discover new products. Also, 16.1% reported on this problem 'Often'. The results suggest that both the recommendation systems could be applied to the personalized shopping environment, but would also pose the danger of favouring similar products and reducing the diversity in the content. As a whole, the results indicate that to a certain degree these attributes are now entrenched in the online shopping behaviour of the consumers. However, these technologies are utilized by consumers but there is a problem of repetitive recommendations, there is a low product discovery and this impacts their perception towards online shopping platforms.

DISCUSSION:

The present study explored how Artificial Intelligence (AI) has influenced customer experiences in e-commerce, focusing on customer perceptions of AI-related services like recommendation systems, chatbots, and customer personalisation. The results demonstrate the positive impact AI can have on the online shopping experience, thereby enhancing convenience, personalisation, responsiveness, and decision-making assistance. More than half of those who responded said they find online shopping easier and quicker due to AI tools, and that it assists in purchase decisions with personalized recommendations, were backed by a number of people. The research shows that AI can have a positive impact on customer satisfaction and engagement in e-commerce platforms.

As seen in the demographic breakdown, the larger proportion of respondents is from the age group 20 to 30 while a significant proportion was almost concentrated on employed respondents indicating that the younger generation and the digitally active consumer are more used to shopping with AI. This displays how much consumers of today are relying on smart technologies to make efficient and personalized shopping online.

The research also underscores how AI can boost the efficiency of customer service response times and automate and predict costs for shoppers. As evidenced from the results, recommendation systems and personalised suggestions seem to have a significant effect on customer purchase behaviour, which also corroborates the findings from previous studies linking the possibilities of AI-based personalisation with increased customer engagement and customer satisfaction.

Nevertheless, the benefits of using AI in e-commerce are accompanied by certain drawbacks. Yet, the benefits of eCommerce AI use come with a few drawbacks. Many respondents voiced concerns about the inaccuracies, irrelevancy, and repetitiveness of recommendations, and about confusing AI features. These issues indicate that AI systems can be very useful in personalizing the interaction, but at times they may not be able to fully grasp the customer preference or to enable optimal discovery of products. Furthermore, most of those surveyed said that human interaction is vital in the customer service arena, with some also arguing that customer service should always provide a human touch to enable them to establish trust and resolve complex issues.

This research also highlights the issues of trust, transparency, and privacy of data in AI-based systems. Customers want companies to behave responsibly and keep their information safe with AI. Businesses, therefore, need an equilibrium between automation and human connection – to ensure a smooth and reliable customer experience.

FUTURE SCOPE:

There's a lot more to explore when it comes to AI and customer experience. Imagine digging into how voice assistants, virtual reality shopping, generative AI, and emotion-based recommendation systems actually shape the way people shop and interact with brands. You could look at how different groups—by age, region, or income—see these technologies and what that tells us about their impact.

This study only focused on a few e-commerce platforms, but expanding to more platforms and even international markets would paint a much broader picture. It would be interesting to see how AI influences things like customer loyalty, trust, and buying habits over time, not just in the moment.

There's also a whole layer of ethical concerns to address: data privacy, algorithmic bias, transparency—these all matter and deserve a closer look. Finally, using bigger samples and sharper statistical methods in future research could make results more reliable and meaningful. All of this would help us really understand the role of AI in e-commerce and what it means for customers everywhere.

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EFFECTIVENESS OF AI-DRIVEN RECRUITMENT PRACTICES AMONG SELECT COMPANIES OF KARNATAKA.

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ABSTRACT:

The use of Artificial Intelligence in recruitment practices has significantly changed the hiring practices by improving efficiency, processes automation, access to a broader talent pool, and enabling data-driven decision-making. The application of AI in recruitment practice is not only advancement of technology but also the paradigm shifts in the manner that companies assess, select and recruit candidates. The current study focuses on the effectiveness, perception and certain issues regarding AI in recruitment practices of the sample companies of Karnataka. The study adopts descriptive research, wherein the data was collected through questionnaires distributed to the HR professionals in various industries of Karnataka. The study adopts a sample of 100 HR professionals from the sample companies to derive a fair insight. The study expected to make a contribution to the exizting body of knowledge by providing empirical support on the manner in which AI results in better hiring decisions and improve the minimizes human intervention, efficiency and better talent acquisition.

Key Words: Artificial Intelligence, Human Bias, Industry, Talent Recruitment.

INTRODUCTION

Artificial Intelligence (AI) has become a revolutionary concept in HR, when deployed during the talent recruitment and selection of employees. AI-driven human resource management encompasses the incorporation of AI within the human resource function. AI-driven human resource is most commonly associated with the incorporation of AI system in the Recruitment and selection of employees. Modern organization are increasingly turning to AI system to deploy the most efficient recruitment strategies within a highly competitive environment. Past literature shows that the incorporation of AI system during the Human resource function is likely to increase the efficiency of the operation of the business enterprise. AI-driven systems are capable of processing enormous amounts of applicant information within a limited time compared to traditional human resource recruitment strategies (Upadhyay & Khandelwal, 2018; Black & van Esch, 2021). The incorporation of AI systems within the human resource function is a key practice of strategic human resource management.

The already existing literature further emphasizes both the opportunities and challenges related to AI-based recruitment practices. For example, it was asserted within the existing literature that research findings showed the following: AI can improve the candidate experience, such as through chatbots, personalization and transparent recruitment (Vrontis et all.,2022). However, the existing literature asserts that ethical dilemmas, such as AI-based biases, lack of transparency, data privacies, and over-reliance on decision technologies, are present in AI-based recruitment practices (Raghavan et al., 2020; Bogen & Rieke, 2018).

LITERATURE REVIEW

Artificial Intelligence (AI) has now started to emerge as an important strategic option in the overall domain of Human Resource Management. However, it has been emphasized by researchers that AI-based systems, such as machine-learning, NLP systems, and other AI-based technologies, have significantly started to influence the overall recruitment space of organizations across different industries, such as information technology, banking, healthcare, automotive, etc. (Black & van Esch, 2021; Upadhyay & Khandelwal, 2018). AI-based systems are accepted by organizations, and this acceptance has been motivated by the issues related to efficiency, time, and the overall challenge of dealing with voluminous candidate databases (Jahan & Nair, 2020; Gupta & Kohli, 2022). AI integration in hiring practices is not just a passing fad; rather, it reflects a larger movement in human resources toward automation and data-driven decision-making. This study of the literature aims to investigate the complex effects of AI on talent acquisition, emphasizing its importance in boosting productivity, improving the candidate experience, and resolving bias in recruiting procedures. Research has repeatedly show repeatedly show that Al application in hiring may expedite procedures and save a substantial amount of time.

Dr. VN Brims Srujan's 24 ISSN 2456-4079 and the recruiting expenses. AI tools are changing recruitment processes in a number of ways, including chatbots for initial contacts with candidates, automated resume screening, and predictive analytics. For example, research indicates that businesses using AI-driven systems see a significant reduction in the time it takes to fill roles, which improves operational performance and lowers expenses (Choudhury & Dey, 2022).

With the help of AI technologies, recruiters may use sophisticated sourcing strategies to reach a larger talent pool, which is essential in the current competitive environment. Despite these benefits, the literature shows a complex picture of hiring equality and candidate experience. Theoretically, AI's ability to eradicate human prejudices should result in more fair hiring procedures. Scholars are still concerned, though, because they point out possible dangers such algorithmic discrimination and data bias (O'Neil, 2016). AI systems that penalize particular demographic groups may arise from the unintentional perpetuation of pre-existing prejudices with past hiring data. As a result, even though AI offers chances to improve hiring equity, its application requires close examination and a dedication to moral behaviour. Furthermore, the impact of candidates' perceptions of AI in the hiring process has been highlighted in the literature that is currently available.

METHODOLOGY

The study is of descriptive in nature employed mixed method approach to understand the multifaceted integration of AI and recruitment practices. This approach facilitates triangulation of data to enhance the robustness of the results. The present study examines the effectiveness, perception, concerns and the impact of artificial intelligence in recruitment practices among the sample companies of Karnataka. The sample size of the study taken as 100 which companies of human resource professionals across manufacturing and service industries. The research is based largely on primary research, where the responses were collected through a structured questionnaire from the Human Resource Professionals from both manufacturing and service sector.

DISCUSSIONS:

Table 1: Social Demographic Characterization

Variable	Variable Description	Relative Frequency
Gender	Male	84.3
	Female	15.3
	Below 25 Years	15.7
	25-35 Years	70.6
Age	35-40 Years	12.1
	Above 40 Years	1.0
	Undergraduate	28.4
	Post Graduate	38.2
Education	Professional	20.6
	Diploma	12.7

Current Role	Recruitment Specialist	25.5
	HR Generalist	48.0
	Hiring Manager	26.5
Experience	Less than 5 Years	48.0
	5-10 Years	35.3
	Above 10 Years	16.7
Industry	Manufacturing	32.4
	Services	67.6

Table 2*: *Perception of AI in Recruitment Practices

	Mean	Std. Deviation
It improves the quality of recruitment decisions	3.37	1.258
Objectivity of AI-based recruitment compared to traditional recruitment	3.07	1.171
AI tools promote fairness and transparency in hiring	3.40	1.119
I Trust AI Systems Used In Recruitment Decisions	3.37	1.107
AI-assisted recruitment matches up with desired organizational requirements	3.47	1.175

The table no 2 shows the perception of Artificial Intelligence in Recruitment Practices among the respondent of sample companies. It shows the majority of the responses are closed to the mean value of 3.5 indicating the positive perception which improves the recruitment practices in terms of quality, fairness and organizational requirements.

Table 3: Effectiveness of AI in Recruitment Practices

	Mean	Std. Deviation

AI reduces the time-to-hire	3.34	1.239
AI helps improve the precision of shortlisting the applicants	3.35	1.114
AI Increases Efficiency in the Handling of Large Applicants	3.39	1.136
AI tools enhance the candidate experience in recruitment	3.42	1.121
AI assists in matching candidates' skills and requirements with job needs	3.45	1.077

The table no 3 shows the effectiveness of Artificial Intelligence in Recruitment Practices among the respondent of sample companies. The responses show the mean value of higher than 3 to 3.5 indicating greater effectiveness of the recruitment practices can be achieved through the implementation of Artificial Intelligence. It improves the time and accuracy of handling the large pool of data.

Table 4: Issues of AI in Recruitment Practices

	Mean	Std. Deviation
AI recruitment tools can also harbor potential biases	3.21	1.053
Dependence on AI will Impose Less Human Judgment in recruitment	2.80	1.046
AI systems ignore contextual skills	3.58	1.066
Ethical and legal risks affect the deployment of AI effectively in the industry	2.30	1.051
Important issues are data privacy and security with AI recruitment	3.81	1.042

The table no 4 shows the concern of employing the Artificial Intelligence in Recruitment Practices among the respondent of sample companies. The responses show the mean value of 3.81 and 3.58 for data privacy and lack of contextual skills indicating issue of implementing AI in recruitment practices. It can be inferred that the better management of AI with proper security and safety with flexibility of human interface can help in overcoming the challenges mentioned above.

Impact of artificial-intelligence on recruitment practices

The aim of this analysis is to test the impact of Artificial Intelligence on the different parameters of Recruitment Practices among the sample companies. The constructs used for the analysis are diversity, process efficiency, quality, equality and candidate experience. The hypotheses are formed for same as follows.

1. **Hypotheses 1:** Artificial Intelligence has impact on Diversity in Recruitment.
2. **Hypotheses 2:** Artificial Intelligence has impact on Recruitment Process Efficiency.
3. **Hypotheses 3:** Artificial Intelligence has impact on Quality of Hiring Decisions.

4. **Hypotheses 4:** Artificial Intelligence has impact on Equality in Recruitment.

5. **Hypotheses 5:** Artificial Intelligence has impact on Candidate Experience.

Table 5: Diagnostic Statistics

Constructs	Durbin-Watson	Multicollinearity	
		Tolerance	VIF
Diversity in Recruitment	1.53	1.00	1.00
Recruitment Process Efficiency	1.82	1.00	1.00
Quality of Hiring Decisions	2.03	1.00	1.00
Equality in Recruitment	2.14	1.00	1.00
Candidate Experience	1.62	1.00	1.00

Table 6: AI and Recruitment Practices

Recruitment Practices	Beta Coefficient
Diversity in Recruitment	.617***
Recruitment Process Efficiency	.501***
Quality of Hiring Decisions	468***
Equality in Recruitment	.382***
Candidate Experience	.371***

*** indicates significance at 5%.

The table no five and six shows the diagnostic statistics and the results of regression analysis in analysing the impact of AI implementation in the recruitment practices of sample companies. The diagnostic table highlighting the appropriateness of the data for the use of regressing analysis. The Durbin-Watson test parameters are greater than the acceptable range of 1.5- which are 2.5 and the tolerance-level and VIF values are found in the range of 1 which indicates no multicollinearity among the constructs. The table no 6 shows the significant impact of AI on the recruitment practices namely diversity in recruitment, recruitment process efficiency, quality in hiring decisions, equality in recruitment and candidate experience. The regression beta coefficient of constructs of recruitment practices found to be significant at 5% level shows the acceptance of alternate hypotheses on recruitment practices indicating the effective use of artificial intelligence in the recruitment practices among the sample companies will leads the better recruitment decisions.

CONCLUSION:

The findings show that the majority of the respondents from the sample companies have a positive view regarding the application of AI in recruitment practices. This serves as an evidence that the application of AI has significantly improved the effectiveness of recruitment practice. The findings also reveals that there are a few concerns such as the security and safety issues related to the application of AI that require proper attentions. And also findings of the hypotheses testing reveals that the application of AI in recruitment practices not only saves cost and time, but also minimizes human bias and improves the effectiveness of recruitment decisions. Therefore, based on the findings of the sample companies can also apply AI-based recruitment practise to benefits from them and further improve the performance of human resource as a whole.

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PERFORMANCE ANALYSIS OF BANKS – A COMAPARATIVE STUDY OF PUBLIC SECTOR COMMERCIAL BANKS

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ABSTRACT

The study targets to analyses the performance of Public Sector Commercial Banks in India. Commercial Banks play an instrumental role in the expansion of an economy. Indian commercial banks are grouped as Public Sector Commercial Banks, Private Sector Commercial Banks and Foreign Commercial Banks. Both researchers have made an endeavor to assess the performance of business of Public Sector Commercial Banks in India. The study covers 10 Public Sector Commercial Banks of India. The study is depended on secondary data extracted through internet and books. Period of the study is three years from 2020-21 to 2022-23. Business and parameters of performance with important ratios of banking were utilised for study and it is concluded that SBI is leading in almost all the parameters.

Key words: Commercial Banks, Financial Analysis, Performance Evaluation, Public Sector Banks.

INTRODUCTION

In order to organize and to ensure a strong, hard and securing banking sector, business performance of the banks have to be analyzed and evaluated. The Banking sector is also regarded as an important component in the system of finance. The commercial banks are classified as Non-Scheduled and Scheduled banks, Foreign and Indian banks, Private and Public banks. The Indian banking sector is having a lengthy history. The first bank in India was Bank of Hindustan, which was set up in the year 1770. The year 1969 marked a pivotal year was important in the Indian history of commercial banking.

In the perspective of international trends of banking and achieving the requirements of finance in India, reforms on financial sector were established in the wake of economic liberalization and globalization in India. Many reforms were considered to enhance efficiency as well as stability of banks.

Many powerful measures were introduced to make an atmosphere where banks could response ideally to signals of market on the criteria of commercial consideration while the measures on strengthening aimed at diminishing the vulnerability of banks in the stage of fluctuations in the economic environment. A framework which is institutional in nature are required for conductive progress of banks. There are many astonishing changes happened in many banking segment in terms of implementation, particularly in domestic banks. Even after the reforms that took place in 1991, banks in public sector have been playing an important pivotal role in collection of deposits and lending of loans. However, the entry of foreign banks and private sector banks have provided a new atmosphere of banking that made public sector banks to improve the functioning and performance in the competitive environment.

REVIEW OF LITERATURE

The study on “An evaluation of financial performance of commercial banks” shows that the outcome in terms of profitability has an effective result on adequacy of capital and leverage in finance, however the result did not ratify the collaboration between profitability and performance of banks. Study too shows that implementation of higher ratio of capital adequacy will negatively changes the productivity of the banks. The result of oil and financial crisis may have altered bank’s financial leverage, which in turn negatively affected their profitability. (Pinto, P., Hawaldar, et,all (2017)).

Study on “Analysis of financial performance of selected commercial banks in India” found that financial result of private sector banks is relatively better than banks in the public sector throughout the study period. It examines the result of solvency, liquidity as well as efficiency on the productivity of the Indian commercial banks which are selected by employing the panel data estimations, viz. the Random Effect and Fixed Effect models. The empirical outcome from the panel data estimations showed that the solvency ratio, liquidity ratio, solvency ratio and turnover ratio are found to have significant as well as positive impact on the profitability of selected public sector and private sector banks, respectively which bears testimony to the data that productivity is the function of those ratios (Palamalai, S., and Britto, J. (2017)).

Commercial banks are strong pillar of any country. Banks play a pivotal role because they act as a link between those who have finance and those who required finance to invest on banks, but in countries who are in developing phase, the habit of mobilizing the country's resource has been a biggest complex task in those days *(Avneet Kaur 2012).*

In India after proposing liberalization, privatization and globalization in the year 1991, significant fluctuations have formed in banking sector. The financial result of any bank is measured through a number of key factors in quantitative terms. From the view point of investment decision, fundamental analysis which targets at developing an insight into the economic performance of the business is crucial. *(Gurpreet Kaur 2015).*

The operations of the commercial banks in public sector have been playing a predominant role in the advancement of any country. The results and patterns showed that when NPAs are considered, it is higher in public sector banks, but statistical tool named t-test showed that the results are not statistically significant *(K.S. Chaitra, V. Vasu 2018.)*

RESEARCH GAP

The above research articles are reviewed by both the researchers; outcome is that the current factors are not considered seriously by many past researchers for preparing a comparative study as well as analysis of commercial banks in public sector. Therefore, the current study is being undertaken by both researchers.

OBJECTIVES OF THE STUDY

Important goal of the study is to analyze the performance in business of various Commercial Banks in Public Sector of India.

- To compare level of efficiency of banks in managing operating expenses.
- To assess the productivity of commercial banks in the public sector according to return on assets.
- To weigh the performance of commercial banks in public sector on the basis of Net Performing Asset.
- To examine business per employee of various banks in public sector under study.
- To compare various banks in public sector on the context of profit per employee.

HYPOTHESIS

H_0: There is no significant variation in the operational results of Public Sector Commercial Banks in India based on the data.

SCOPE OF THE STUDY

Present study is aimed at analyzing the business productivity of Indian public sector commercial banks. According to the availability of information, 12 public sector commercial banks are operating in India. Here only 10 commercial banks in public sector have been identified in this study. Analysis are made between banks on the basis of investments, deposits, advances, total assets, net NPA, interest income, other income, operating expenses, operating profit, net profit, credit-deposit ratio, investment-deposit ratio, operating expenses as a percentage to total expenses, return on assets, capital adequacy ratio, net NPA as a percentage to net advances, business per employee and profit per employee. It is conducted on the basis of information which are quantifiable. Time Period for the study considered is 3 years starting from 2020-2023.

METHODOLOGY OF RESEARCH

Current study is relied on data collected from the annual reports of commercial banks in Public

Sector such as State Bank of India, Bank of Baroda, Central bank of India, Canara Bank, Indian Bank, Indian Overseas Bank, PNB, UCO Bank and Union Bank of India. Average or mean is used for evaluation and One-way ANOVA statistical tool is utilized for testing the said hypothesis.

LIMITATIONS OF THE STUDY

- Complete study is depended upon data from secondary sources.
- Quantitative aspects are only considered in the study and aspects in the nature of qualitative are completely neglected while comparing the performance of Indian commercial banks in public sector.

Analyzation and Interpretation of Data

Table 1: Business and productivity parameters of Indian Commercial Banks in Public Sector (Average of 3 years' data from 2020-21 to 2022-23) (Amt. in cr.)

Parameter	Bank of Baroda	Bank of India	Canara Bank	Central Bank of India	Indian Bank	Indian Overseas Bank	Punjab National Bank	UCO Bank	Union Bank of India	State Bank of India (SBI)
Deposits	986306.6	603504.8	907544.9	328809.4	463971.6	241799.6	985465.6	207731.9	802288.7	3658144
Investment	283876.8	173424.8	239982.8	143962.3	144112.5	91029.77	335205.6	93885.27	277477.8	2454261
Advances	724525.5	385137.1	591608.6	158617.8	316580.7	131099.2	624747.9	111771.1	522345.6	2502918
Total Assets	1197093	705821.8	1034843	370676.5	534854.2	278038.1	1135368	252342.7	936660	4491140
Net NPA	18913.71	12144.65	20453.7	9081.72	9101.22	5001.87	33567.91	4405.48	22962.43	38882.24
Interest Income	72120	40342.8	62541.9	23031.4	33122.4	17034	69832.7	14853.9	57980.7	265977
Other Income	11578.3	7144.53	13078.1	3240.32	5292.55	4607.34	11172.1	3132.07	9843.44	43093.8
Interest Expended	42,493	25,813	41,338	14,578	19,789	11,196	44,273	9,172	36,677	156,143
Operating Expenses	20,377	11,081	16,902	6,806	8,566	5,381	17,512	4,220	14,240	83,741
Operating Profit	20,828	10,593	17,379	4,888	10,060	5,064	19,220	4,594	16,908	69,187

Net Profit	2882	869	2000	-321	2568	-1995	1938	-447	1747	22191

Source: Compiled from https://www.iba.org.in/depart-res-stcs/key-bus-stcs.html

Table 1, presents data related to business productivity parameters of the selected public sector banks.

Deposits:

With regard deposits collected by the public sector banks, S.B.I. is leading all other banks (36,58,144 cr.) and next comes Bank of Baroda (9,86,306.6 cr.), Punjab National Bank (9,85,465.6 cr.). UCO bank has the least amount of (2,07,731.9 cr.) deposits collected.

Investments:

With regard to the Investments; State Bank of India obtains first place with 24,54,261.03cr. investment and it is followed by Punjab National Bank (3,35,205.59 cr.), Bank of Baroda (2,83,876.8 cr.). Indian Overseas Bank is ranked as lowest (91,029.77cr.) in terms of investment.

Advances:

S.B.I. is leading other banks in public sector with highest number of advances amounting to (25, 02,918 cr.) and next comes the turn of Bank of Baroda (7, 24,525.5 cr.), Punjab National Bank (624747.9 cr.). UCO Bank has the least amount of (1, 11,771.1 cr.) advances made.

Total Assets:

In terms of Total Assets; State Bank of India is leading with highest value of total assets amounting (44, 91,140 cr.) and it is followed by Bank of Baroda (72,120 cr.), Punjab National Bank (11, 35,368 cr.). UCO Bank has the least amount of (2, 52,342.7cr.) total assets.

Net NPA:

According to Net NPA of the public sector banks; UCO Bank has lowest amount of NPA (4,405.48 cr.) and it is followed by Indian Overseas Bank (5,001.87 cr.), Central Bank of India (9,081.72 cr.). State Bank of India has the highest amount of (38,882.24 cr.) Net NPA.

Interest Income:

With regard to Interest Income of various banks; S.B.I. has highest amount of interest income (2,65,977 cr.) and it is followed by Bank of Baroda (11,97,093 cr.), Punjab National Bank (69,832.7 cr.) UCO Bank has the least amount of (14,853.9 cr.) Interest Income.

Other Income:

According to Other Income of the public sector banks; State Bank of India is leading with highest amount of Other Income (43,093.8 cr.) and it is followed by Canara Bank (13,078.1 cr.), Bank of Baroda (11,578.3 cr.). UCO Bank has the least amount of (3,132.07 cr.) Other Income.

Interest Expended:

With regard to Interest Expended; UCO Bank is leading with least amount of Interest Expended (9,172 cr.) and it is followed by Indian Overseas Bank (11,196 cr.), Central Bank of India (14,578 cr.). State Bank of India has the highest amount of (1,56,143 cr.) Interest Expended.

Operating Expenses:

According to Operating Expenses of banks; UCO Bank is leading all other public sector banks, with least amount of Operating Expenses (4,220 cr.) and it is followed by Indian Overseas Bank (5,381 cr.), Central Bank of India (6,806 cr.).

State Bank of India has the highest amount of (83,741 cr.) Operating Expenses.

Operating Profit:

According to Operating Profit made by the public sector banks; State Bank of India is leading all other public sector banks with highest amount of Operating Profit (69,187 cr.) and it is followed by Bank of Baroda (20,828 cr.), Punjab National Bank (19,220 cr.). UCO Bank has the least amount of (4,594 cr.) Operating Profit.

Net Profit:

According to Net Profit made by the public sector banks; S.B.I. is leading with highest amount of Net Profit (22,191cr.) and next comes Bank of Baroda (2,882 cr.), Indian Bank (2,568 cr.). Indian Overseas Bank has the least amount of (-1,995 cr.) Net Profit.

Table 2: Financial Ratios of the Public Sector Banks (Average of 3 years' data from 2020-21 to 2022-23)

Parameters	Bank of Baroda	Bank of India	Canara Bank	Central Bank of India	Indian Bank	Indian Overseas Bank	Punjab National Bank	UCO Bank	Union Bank of India	State Bank of India (SBI)
Credit Deposit Ratio	73.43	63.91	65.7	48.23	69.67	54.2	63.84	53.75	65.97	66.15
Investment Deposit Ratio	28.75	28.73	26.68	43.84	31.14	37.6	34.05	45.29	34.49	33.49
Operating Exp. as % to Total Expenses	32.61	30.08	28.64	31.9	29.32	32.52	28.01	31.45	27.2	34.86
Return on Assets [%]	0.24	0.09	0.13	-0.1	0.46	-0.68	0.15	-0.19	0.07	0.51
Capital Adequacy Ratio-Basel III [%]	14.76	15.02	13.91	12.78	15.45	13.29	14.32	13.06	13.3	13.54
Net NPA as % to Net Advances	2.65	3.19	3.57	5.79	2.92	3.89	5.44	4.03	4.59	1.58
Business per	20.13	20.02	18.56	15.6	24	16.4	18.8	14.91	21.16	23.51

Employee										
Profit per Employee	3.59	1.58	1.87	-0.88	7.04	-7.7	2.06	-3.01	0.97	9

Source: Compiled from https://www.iba.org.in/depart-res-stcs/key-bus-stcs.html

Table 2: presents various financial ratios of the banks under study.

Ratio on Credit Deposit (%):

According to ratio on Credit Deposit, Bank of Baroda obtains the top rank (73.43%) and leading remaining public sector banks, and is followed by Indian Bank (69.67 %), State Bank of India (66.15 %). Central Bank of India has lowest ratio (48.23 %).

Investment Deposit Ratio (%):

As per the Investment Deposit Ratio, UCO Bank is leading (45.29 %) all other public sector banks and it is followed by Central Bank of India (43.84 %), Indian Overseas Bank (37.6 %). Canara Bank has the least (26.68 %) investment deposit ratio.

Operating Exp. as % to Total Expenses (%):

With reference to the Operating Exp. as % to Total Expenses, Union Bank of India has least percentage (27.2%)and leading all other public sector banks and it is followed by Punjab National Bank (28.01%), Canara Bank (28.64%). State Bank of India has the high percentage of (34.86%) Operating Exp. as percentage to Total Expenses.

Return on Assets (%):

According to Return on Assets ratio, State Bank of India Obtain the top rank (0.51 %) and it is followed by Indian Bank (0.46 %), Bank of Baroda (0.24 %). Indian Overseas Bank (-0.68 %) has the least percentage of Return on Assets ratio.

Capital Adequacy Ratio (%):

With regard to the Capital Adequacy Ratio, Indian Bank is leading with 15.45% ratio and it is followed by Bank of India (15.02%), Bank of Baroda (14.76%) and Central Bank of India has the least percentage of (12.78%) Capital Adequacy Ratio.

Net NPA as a Net Advances (%):

With regard to the Net NPA as a Net Advances Ratio, State Bank of India leading with least % of (1.58%) among all other public sector banks, and it is followed by Bank of Baroda (2.65%), Indian Bank (2.92%). Central Bank of India has the high percentage of (5.79%) Net NPA as a Net Advances Ratio.

Business per Employee (%):

According to Business per Employee, Indian Bank obtain top rank (24%) and it is followed by State Bank of India (23.51%), Union Bank of India (21.16%). UCO Bank has obtained lowest rank (14.91 %) in terms of Business per Employee ratio.

Profit per Employee (%):

According to Profit per Employee ratio, State Bank of India obtain top rank (9%) and it is followed by Indian Bank (7.04%), Bank of Baroda (3.59%). Indian Overseas Bank obtained last rank (-7.7%).

TESTING OF HYPOTHESIS

H_0: There is no significant difference in the business performance of Public Sector Commercial Banks in India.

In the research study, both researchers have used One Way ANOVA statistical tool for testing the hypothesis.

Table 3: One-way ANOVA

Source of variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Deposits						
Between Groups	2.7435E+13	9	3.05E+12	72.86649	2.56E-13	2.392814
Within Groups	8.3669E+11	20	4.18E+10			
Total	2.8272E+13	29				
Investments						
Between Groups	3.4279E+12	9	3.81E+11	50.34711	8.69E-12	2.392814
Within Groups	1.513E+11	20	7.57E+09			
Total	3.5792E+12	29				
Advances						
Between Groups	1.3267E+13	9	1.47E+12	113.4839	3.51E-15	2.392814
Within Groups	2.598E+11	20	1.3E+10			
Total	1.3527E+13	29				
Total Assets						
Between Groups	4.4E+13	10	4.4E+12	83.99032	3.72E-15	2.296696
Within Groups	1.15E+12	22	5.24E+10			
Total	4.52E+13	32				
Net NPA						
Between Groups	4.36E+09	10	4.36E+08	17.99817	2.3E-08	2.296696
Within Groups	5.33E+08	22	24223344			
Total	4.89E+09	32				
Interest Income						
Between Groups	1.462E+11	9	1.62E+10	187.5975	2.55E-17	2.392814
Within Groups	1.731E+09	20	86563530			
Total	1.479E+11	29				
Other Income						
Between Groups	3.738E+09	9	4.15E+08	79.04994	1.17E-13	2.392814
Within Groups	105079383	20	5253969			
Total	3.843E+09	29				
Interest Expended						
Between Groups	5.147E+10	12	4.29E+09	177.2153	1.42E-17	2.277581

Within Groups	484064998	20	24203250			
Total	5.1954E+10	32				
Operating Expenses						
Between Groups	1.52E+10	12	1.27E+09	70.76745	1.12E-13	2.277581
Within Groups	3.59E+08	20	17943561			
Total	1.56E+10	32				
Operating Profit						
Between Groups	1.026E+10	10	84.25034	3.6E-15	2.296696	1.026E+10
Within Groups	268001554	22				268001554
Total	1.053E+10	32				
Net Profit						
Between Groups	1.31E+09	10	1.31E+08	8.035953	2.57E-05	2.296696
Within Groups	3.58E+08	22	16251345			
Total	1.66E+09	32				

Source: Author's compilation

It is found out from the Table 3 that F values as calculated are greater than the respective critical values. Therefore, the values so calculated are significant. Hence, the hypothesis is being rejected and found that there is significant variation in the operational results of Public Sector Commercial Banks in India based on the data.

FINDINGS AND CONCLUSION

- Current study concluded that S.B.I. obtained first place with (36,58,144 cr.) and UCO bank (2,07,731.9 cr.) obtained last position in deposits collected.
- It is the fact from the study that State Bank of India obtains top rank (24,54,261.03cr.) and Indian Overseas Bank lowest (91,029.77cr.) rank in terms of investment.
- It could be observed in the study that State Bank of India is leading with 25,02,918 cr. Advance made compared to other banks and UCO Bank with 1,11,771.1 cr. advances made treated as the low performer.
- Study showed that State Bank of India is leading with highest value of total assets (44,91,140 cr.) and UCO Bank has the least amount of (2,52,342.7cr.) total assets.
- It is concluded that UCO Bank has lowest amount of NPA (4,405.48 cr.) and State Bank of India has the highest amount of (38,882.24 cr.) Net NPA.
- It is the fact from the study that State Bank of India obtains top rank of (2,65,977 cr.) and UCO Bank has the last rank (14,853.9 cr.) in terms of Interest Income.
- It is crystal clear from the study that State Bank of India is leading with highest value (43,093.8 cr.) and UCO Bank has the least amount of (3,132.07 cr.) other income.

- It could be observed in the study that UCO Bank is leading with least amount of Interest Expended (9,172 cr.) and State Bank of India has the highest amount of (1,56,143 cr.) Interest Expended.
- Current study revealed that UCO Bank is leading remaining banks with least amount of Operating Expenses (4,220 cr.) and State Bank of India has the highest amount of (83,741 cr.) Operating Expenses.
- It is true from the study that State Bank of India is leading highest amount (69,187 cr.) and UCO Bank has the least amount of (4,594 cr.) Operating Profit.
- It is clear from the study that Net Profit of State Bank of India is highest (22,191cr and it is lowest with Indian Overseas Bank has the least amount of (-1,995 cr.).
- The analysis based on the key financial ratios shows that State Bank of India is treated as number one in terms of Net NPA to Net Advances ratio, return on assets and profit per employee. Indian bank is leading in terms of Capital Adequacy Ratio and Business Per Employee. Bank of Baroda has highest Credit Deposit Ratio, UCO bank has highest Invest Deposit Ratio, Union Bank of India has lowest Operating Expenses Ration.

Finally, it is concluded that State Bank of India is leading all other public sector commercial bank in terms of various parameters like Deposits, Investments, Advances, Total Assets, Net NPA, Interest Income, Other Income, Interest Expended, Operating Expenses, Operating Profit, Net Profit used in the study. Key financial ratios like Credit Deposit Ratio, Investment Deposit Ratio, Operating Exp. as % to Total Expenses, return on Assets [%], Capital Adequacy Ratio-Basel III [%], Net NPA as % to Net Advances, Profit per Employee to Business per Employee, sincerely UCO Bank is ranked as least performing bank based on some parameters.

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THE IMPACT OF FINANCIAL LITERACY AWAREMESS ON STUDENTS' FINANCIAL DECISION-MAKING BEHAVIOUR -AN EMPIRICAL STUDY

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ABSTRACT

This research intends to assess the extent of financial literacy among the under graduate and postgraduate students in the selected universities in Bengaluru and its role in impacting their financial decisions. Using a structured questionnaire, responses were collected from a total of 131 students and analyzed. The results indicate the presence of a discrepancy between students' financial knowledge and behavior. A sizeable percentage (61%) of students feel themselves competent enough to prepare a monthly budget for themselves, showing a certain amount of financial awareness on their part. Approximately 71.0% of students assess product reviews prior to making an expensive expenditure on products. while a number of students might have fundamental knowledge regarding finance, this knowledge is usually not implemented in practical aspects because of various reasons such as spending impulsively, not planning adequately or having little information regarding finance. It should be noted that the results of the research show the need to implement educational financial programs in universities.

KEYWORDS: ***Budgeting, Decision-Making, Financial Behavior, Financial Literacy, Students.***

INTRODUCTION

In the contemporary world, where finance is continuously advancing, there is a need for individuals to make sound financial decisions from an early age. In the case of students, they are becoming increasingly responsible for their finances, from meeting their basic needs to covering the expenses associated with education. Moreover, they are also becoming familiar with modern financial tools like online banking, UPI, and mobile wallets.

Financial literacy is significant for individuals to gain insight into their finances and handle them appropriately. This is not just confined to knowledge, but also skills and attitude towards the handling of money. Financially literate students will be able to make wise decisions about their savings, expenditures, and investments. On the other hand, financially illiterate students may experience problems managing their finances.

NEED OF THE STUDY

A large number of students lack basic financial literacy skills like budgeting, saving and investment and there is a growing use of electronic banking and money transfers requires proper knowledge and safe practices. Financial literacy is not taught to students in most of the academic systems. More often than not, students are now responsible for all their financial matters themselves. Students usually face issues regarding poor spending behavior, lack of saving and bad budgeting. Also, the risk of falling victim to financial scams increases as students lack knowledge about it. Sometimes, even when students know things theoretically, they fail to put them into practice. Early acquisition of financial skills ensures future financial stability.

REVIEW OF LITERATURE

The studies included in this review span India as well as other parts of the world, and thus serve to provide both global and local contexts to the current research.

SAVING BEHAVIOUR

Jamie Wagner (2019), in his article looked into the influence of financial education lessons offered to students at high schools, colleges, and employees. The author identified that financial education lessons have far-reaching influences and effects on people compared to their influence on temporary behavioral outcomes. People who underwent financial education at various levels were able to save better, invest, and avoid debts throughout their lives.

Conrad Murendo (2017) stated that interventions that help individuals access information regarding finances are significant towards increasing financial literacy among individuals. Financial literacy leads to positive influences on an individual's savings behavior. In this case, individuals who know more about various financial products and services are in a position to save better.

FINANCIAL PLANNING

Vinod Krishna M.U et al (2019) in their research on effect of financial literacy on personal financial planning mentioned that financial literacy assists individuals to make better decisions about financial matters. In addition, the improvement in financial literacy increases the probability of individuals using financial planning services. The research shows that financially literate individuals tend to be involved with institutions offering financial services and hence increase their ability to build up their wealth.

Lusardi & Mitchell (2023), in their research found financially literate individuals tended to plan for their retirement years in life and withstand financial shocks in their lives. In addition, financial literacy increased the ability of individuals to manage debt effectively. The study concluded that individuals exposed to financial education in educational institutions and places of work had high financial well-being.

DIGITAL FINANCIAL LITERACY

Rath & Patra (2023) in their findings through investigation pointed out that financial literacy in India is more than just technical skills, but it includes behavioral skills too, which help to improve financial and economic wellbeing. This review revealed that increased financial literacy plays a critical role in identifying behavioral biases that hamper the process of making rational decisions in financial matters, especially young individuals with a high level of digital literacy.

FINANCIAL DECISION-MAKING

According to Brüggen et al. (2017), financial decision making is a cognitive activity that involves such functions as defining financial aims, assessing options, choosing alternatives, and analyzing risks and advantages of each choice. Brüggen et al. (2017) pointed out that nowadays there is a tendency of the gap between the intentions of financial planning and real savings, which depends greatly on the personality traits of people, such as their attitude towards risk and rewarding.

Templa et al. (2025) revealed that financially smart people tend to stick to their budget, regularly save money for future use, and do not owe too much. According to the authors, the introduction of financial management courses into the curriculum at colleges can help students minimize their financial problems.

GENDER AND FINANCIAL LITERACY REVIEW

According to the findings of Bucher-Koenen et al. (2023) in their research on gender differences and financial literacy, confidence is responsible for about 30 percent of the gender gap in terms of financial literacy results. Both financial knowledge and confidence are correlated positively with stock market participation and decisions regarding investments.

Mohta & Shunmugasundaram (2023), In their research on financial literacy and risk-taking behavior of Indian millennials, Mohta and Shunmugasundaram (2023) established that male participants were more financially literate than their female peers and had higher risk preferences. The findings indicate that in addition to age, gender, financial status, and education significantly contribute to the level of financial literacy in India, making financial education programs for each gender critical.

FINANCIAL LITERACY AND FINANCIAL WELL-BEING

Diksha Jain et al(2026).This study examines the level of financial literacy among college students, with a focus on four key areas: budgeting, credit management, investment behavior and the use of digital financial tools. The study also finds that factors such as family background, access to financial education, gender and field of study can influence financial habits. Students who receive financial education early tend to show better financial decisions and greater confidence in managing money

According to the research conducted by Dahiya et al. (2023), the higher the degree of financial literacy, the lower the degree of financial worry and the higher the degree of financial well-being amongst Indian college students. The findings of the research revealed that individuals with high scores of financial literacies were experiencing low degrees of financial anxiety and had more faith in handling their finances effectively.

INVESTMENT DECISIONS AND BEHAVIORAL BIASES

Diksha Jain et al (2026) in their study examines the level of financial literacy among college students, with a focus on four key areas: budgeting, credit management, investment behavior and the use of digital financial tools. The study also finds that factors such as family background, access to financial education, gender and field of study can influence financial habits. Students who receive financial education early tend to show better financial decisions and greater confidence in managing money

RESEARCH GAP

As seen from the comprehensive analysis of the literature reviewed so far, the following major gaps in the extant literature can be identified, which the present study aims to fill out.

Although numerous researchers have analyzed financial literacy in the context of its association with one particular decision-making process such as budgeting, saving, investment, etc., very little work has been done to understand the impact of financial literacy on multi-faceted decision-making processes among students. Though digital financial literacy has become a key requirement in the age of Fintech, surprisingly little research has been done on whether Indian college students are adequately prepared to use digital financial applications wisely. The existing literature on DFL mostly discusses how adults use digital financial applications, but not the student community who happen to be the most prolific users of such applications. The existing research mostly discusses cognitive factors of financial literacy such as awareness, education, and knowledge. The psychological /behavioral factors such as self-control, financial attitude, social influences, and overconfidence receive less attention in the current literature. Little research can be found discussing how both types of factors play their roles in determining financial decisions made by students.

RESEARCH METHODOLOGY

A considerable percentage of undergraduate and postgraduate students display ignorance and lack understanding of fundamental aspects of financial literacy, including budgeting, saving, investments, borrowing, and using various financial products. The problem of poor financial literacy results in poor decisions that may leave students vulnerable to problems such as debt, financial stress, and failure to achieve their financial objectives.

The present educational system in India does not prepare students adequately for the task of managing their finances, thus creating a critical situation where it becomes imperative for researchers to assess the existing level of financial literacy among students and suggest possible solutions that would address the problem of financial illiteracy.

Lack of awareness and understanding could lead to students' impulsive decision-making that may not only impact their current lives because of the added financial stress and inability to focus, but could also have an adverse effect on their future as financially responsible adults. Closing the gap would require conducting thorough research into the level of financial awareness among students and its influence on their decision-making.

OBJECTIVES OF THE STUDY

1.To assess the financial literacy levels of the students, especially concerning their understanding of budgeting techniques.

2.To evaluate the impact of financial literacy on the students' financial behavior when making decisions.

3.To explore the impact of socio-demographic factors on financial literacy and decision-making behaviors among the students.

HYPOTHESIS

In accordance with the research objectives, the following hypotheses have been developed for testing purposes:

Hypothesis 1 – Financial Literacy and Budgeting Knowledge

- **Null Hypothesis (H_{01}):** The knowledge of financial literacy associated with budgeting among students is insignificant.
- **Alternative Hypothesis (H_{11}):** The knowledge of financial literacy associated with budgeting among students is significant.

Hypothesis 2 – Financial Literacy and Decision Making

- **Null Hypothesis (H_{02}):** Financial literacy has no significant impact on the decision-making process of students.
- **Alternative Hypothesis (H_{12}):** Financial literacy has a significant impact on the decision-making process of students.

SAMPLE & SAMPLING DESIGN

For this study, a non-probability convenience sampling design was used. The choice was mainly made based on ease of obtaining information from potential respondents. After circulating the questionnaire prepared using Google Form and sent to 150 students, only 131 students filled fully and the rest were not considered for analysis. The respondents were chosen from students doing under-graduation and post-graduation in the select universities located in Bengaluru.

DATA COLLECTION METHODS

Data & Instrument used

Primary data was obtained through a survey method that involved administering a structured questionnaire among students. The questionnaire has three parts, Part A: Socio-demographic characteristics including age, sex, educational level, and family monthly income, Part B: Financial literacy and budgeting knowledge and Part C: Financial decision-making and budgeting behavior. Most questions were posed on a 5-point Likert scale varying between strongly disagree (1) and strongly agree (5) while others were multiple choice questions.

STATISTICAL TOOLS APPLIED FOR DATA ANALYSIS

The following statistical techniques were applied to the gathered data from the respondents. The use of these statistics makes the findings both descriptive and inferential.

Chi-Square Goodness of Fit Test	For testing the difference between the distribution of the survey answers and an even distribution – used in Hypothesis 1 (budgeting literacy).
Regression Analysis	For investigating the existence of correlation between financial literacy variables and the respondents' decision making - used in Hypothesis 2

DATA ANALYSIS AND INTERPRETATION

DEMOGRAPHIC CHARACTERISTICS

This study has covered the demographic profile of all 131 participants along four critical axes. It is essential to understand the demographics of these participants in order to understand the context of the results.

Table 1: Demographics of Respondents

Demographic variable	Categories	Number of Respondents	Percentages
Age	Below 18	1	0.76%
	18–20	13	9.92%
	21–23	92	70.23%
	24 and above	25	19.08%
Gender	Male	75	57.26%
	Female	56	42.74%
Level of education	Undergraduate (UG)	63	48.9%
	Postgraduate (PG)	68	51.9%
Family monthly income	Below ₹20,000	33	25.2%
	₹20,001–₹50,000	36	27.5%
	₹50,001–₹1,00,000	30	22.9%
	Above ₹1,00,000	32	24.4%

Source: Author's Own Compilation from Survey

DEMOGRAPHICS

Age: The data reveals that the largest age group is 21-23, accounting for 70.23%(n=92) of the sample followed by respondents aged 24 and above at 19.08%(n=25), only a single respondent is under the age of 18. This indicates the study primarily represents an early-adult university - age demographic.

Gender: The sample shows a relatively balanced representation with a slight male majority (male 57.26%, while 42.74% are female.

Level of Education:51.9% are post-graduate students and the remaining 48.9%(n=63) are undergraduate students

Family Monthly Income: The economic background of the respondents is remarkably well-distributed across four distinct income brackets showing no extreme concentration in any single economic class. The largest segment comprises families earning between ₹ 20,001 - ₹50,000 at 27.5% and the low-income families earning below ₹20,000 account for 25.2%.

Table 2: Financial Literacy Awareness and Financial Decision-Making Behaviour of

respondents

Statement	Responses					
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Financial Literacy Awareness						
You are able to prepare a simple monthly budget.	10 (7.6%)	5 (3.8%)	35 (26.7%)	60 (45.8%)	21 (16.0%)	131 (100%)
You feel confident in managing your personal finances	5 (3.8%)	11 (8.4%)	23 (17.6%)	70 (53.4%)	22 (16.8%)	131 (100%)
Financial knowledge helps you make better spending decisions	6 (4.6%)	8 (6.1%)	19 (14.5%)	76 (58.0%)	22 (16.8%)	131 (100%)
You compare prices before making important purchases.	6 (4.6%)	10 (7.7%)	23 (17.7%)	62 (47.7%)	29 (22.3%)	131 (100%)
Financial awareness helps you avoid financial mistakes.	6 4.6%	9 6.9%	19 14.5%	76 58.0%	21 16.0%	131 (100%)
Your education affects your understanding of financial concepts	12 (9.2%)	16 (12.2%)	31 (23.7%)	59 (45.0%)	13 (9.9%)	131 (100%)
You think budgeting helps you avoid overspending	7 (5.3%)	8 (6.1%)	32 (24.4%)	61 (46.6%)	23 (17.6%)	131 (100%)
Financial Decision-Making Behaviour						
You Compare different options before taking financial decisions	10 (7.6%)	7 (5.3%)	23 (17.6%)	68 (51.9%)	23 (17.6%)	131 (100%)
You use online tools (apps, videos, articles) to improve your financial understanding	8 (6.1%)	16 (12.2%)	39 (29.8%)	53 40.5%	15 (11.5%)	131 (100%)
You avoid buying things immediately and wait to decide if it is necessary.	6 (4.6%)	11 (8.4%)	29 (22.1%)	69 (52.7%)	16 (12.2%)	131 (100%)

You Check product reviews or feedback before spending on costly items	8 (6.1%)	9 (6.9%)	21 (16. %)	64 (48.9%)	29 (22.1%)	131 (100%)
You consider long-term benefits before making financial decisions.	8 (6.1%)	7 (5.3%)	27 20.6%	67 (51.1%)	22 (16.8%)	131 (100%)
I discuss financial matters with my parents or guardians before making decisions.	5 (3.8%)	12 (9.2%)	28 (21.5%)	74 (56.9%)	11 (8.5%)	131 (100%)
You feel that your lifestyle influences how you spend your money.	5 (3.8%)	11 (8.4%)	27 (20.6%)	74 (56.5%)	14 (10.7%)	*131 (100%)*
You learn about money from observing how people around you handle their finances.	9 (6.9%)	10 (7.6%)	28 (21.4%)	69 (52.7%)	15 (11.5%)	131 (100%)

Source: Author's own calculations

1. FINANCIAL LITERACY AWARENESS

Budgeting & Confidence: About 61.8% of respondents agree or strongly agree that they can make a monthly budget. A similar majority (70.2%) feel confident in managing their money.

Knowledge & Mistakes: Most respondents (74.8%) believe financial knowledge helps them make better spending decisions, and 74.0% agree that awareness helps them avoid financial mistakes.

Pricing &Education: A strong majority (70.0%) compare prices before major purchases. However, only 54.9% agree that their education affects their understanding, suggesting that self-taught knowledge or external experiences play a large role.

2. FINANCIAL DECISION-MAKING BEHAVIOUR

Comparison & Planning: Over 69% of respondents compare different options and consider long-term benefits before making choices. Additionally, 71.0% check product reviews before spending on costly items.

Impulse Control: A majority (64.9%) avoid making immediate, impulsive purchases and wait to decide if the item is truly necessary.

Guidance Seeking: Interestingly, 65.4% discuss financial matters with their parents or guardians before making decisions. This shows strong reliance on family advice alongside independent planning.

Continuing Education: While generally proactive, fewer respondents use online tools (like videos or apps) to learn about money; only 52.0% agree or strongly agree with this behavior.

Overall, the group displays a high level of financial awareness and cautious spending behavior. They do not just rely on theoretical knowledge; they actively apply it by comparing prices, reading reviews, and curbing impulse buys. The high rate of discussing finances with parents also points to a strong culture of family consultation before spending money.

STATISTICAL TEST RESULTS AND HYPOTHESIS TESTING

Chi-Square Goodness of Fit Test — Hypothesis 1

Objective: To measure students' financial literacy levels in budgeting. Test: Chi-Square Goodness of Fit

Variable Tested: "You are able to prepare a simple monthly budget"

Table 3: Financial Literacy Level -Chi-Square Test Application

Level	Response Category	Count	Proportion
1	Strongly Disagree	10	0.0763
2	Disagree	5	0.0382
3	Neutral	35	0.2672
4	Agree	60	0.4580
5	Strongly Agree	21	0.1603

Chi-Square (χ^2)	Degrees of Freedom (df)	p-value
74.8	4	< .001

Source: Author's Own Calculations

Upon being asked if students can prepare for themselves a simple budget per month, more respondents answered yes to this. About half (45.8%) said yes, while 16% strongly agree. Twenty-six percent neither agreed nor disagreed. Less than ten percent said they disagreed (7.6%), and 3.8% strongly disagreed. The results indicate that many students are financially aware enough to prepare simple budgets.

In order to determine if there was any particular distribution in the responses provided by the respondents, the Chi-Square test was performed, which provided a χ^2 value of 74.8, with 4 degrees of freedom, and a p-value lower than 0.001, which is very far below the threshold of 0.05 significance level. This indicates that the distribution of responses was not random, but rather, students were actually inclined to agree. Hence, we reject the null hypothesis H_{01} and accept H_{11}.

Multiple Linear Regression Analysis — Hypothesis 2

Objective: To assess how financial literacy influences students' financial decision-making. Dependent Variable: "You compare different options before taking financial decisions." Independent Variables: Financial confidence, financial awareness, education, use of online tools.

Table 4: Multiple Linear Regress Analysis Result

Model Fit	R	R^2
Model 1	0.769	0.591
Note: N = 131		

Predictor	Estimate (β)	Std. Error (SE)	t-value	p-value
Intercept	-0.2096	0.2996	-0.700	0.486
Confidence in managing personal finances	0.4240	0.0822	5.157	< .001
Financial awareness helps avoid mistakes	0.2698	0.0755	3.571	< .001
Education affects understanding of financial concepts	0.0951	0.0628	1.515	0.132
Use of online tools for financial learning	0.2873	0.0669	4.296	< .001

Source: Author's Own Calculations

The explained variation by the regression model is quite high at 59.1%, indicating a rather robust relationship between financial decision-making and factors under analysis. Of four tested variables, only three appear to be significant in terms of affecting students' approach to making decisions.

Financial confidence has the highest beta value (0.424) among all predictors, so those students who are financially confident can be expected to analyze different possibilities more thoroughly and choose an appropriate solution. The second variable (financial awareness, $\beta = 0.270$) and the third one (online tool usage, $\beta = 0.287$) are also highly influential. Finally, formal education does not seem to have a major effect on decision-making process (β = 0.095, p = 0.132). Formal education appears to play no significant role, and therefore, null hypothesis can be rejected and alternative may be accepted as confirmed.

RESULTS &DISCUSSION

FINANCIAL KNOWLEDGE AND BUDGETING AWARENESS

Slightly above 61.8% of students feel themselves competent enough to prepare a monthly budget for themselves, showing a certain amount of financial awareness on their part. About 70.2% respondents feel themselves competent enough in dealing with their finances, but such competence requires caution to ensure that they don't end up being biased towards their abilities. Just a little less than 74.8% of respondents believe that financial knowledge assists them in making good spending choices, representing one of the highest levels of agreement among all questions. An impressive number of 74% of respondents agree that financial awareness keeps them away from financial mistakes.

FINANCIAL BEHAVIOR AND DECISION MAKING

70% of students tend to compare prices before making significant purchases, suggesting that they exhibit rational behavior with regard to financial decision making. Almost 64.9% of students engage in delayed purchases through assessing whether a purchase is absolutely necessary prior to expenditure. Approximately 71.0% of students assess product reviews prior to making an expensive expenditure on products.

SOCIAL AND ENVIRONMENTAL FACTORS

About 65.4% of students seek advice from parents or guardians regarding important financial decisions, thereby reaffirming the importance of family in the financial socialization of students. Around 67.2% of students believe that their lifestyle impacts their spending habits, implying that students are conscious of the impact of their social environment on their financial decisions.

IMPORTANCE OF EDUCATION AND TECHNOLOGY IN FINANCE LEARNING

Although 54.9% of students believe that their education has enhanced their financial knowledge, Only 52.0% of students regularly use technology-based methods to learn about finance, but many respondents remain indifferent (29.8%), suggesting that students are sporadically involved in using technological resources for financial learning. The regression model confirms that education is an insignificant predictor of financial decision making (p=0.132). However, financial confidence, financial awareness, and technology usage are significant predictors.

HYPOTHESIS TESTING OUTCOMES

Chi-Squared Test (χ^2= 74.8, p < .001): Rejection of the null hypothesis concerning the lack of significance in terms of awareness of financial literacy in budgeting. Students exhibit a significant level of budgeting awareness.

Regression Analysis (R^2= 0.591, p < .001): Rejection of the null hypothesis regarding the non-influence of financial literacy on decision-making. Financial literacy — particularly, confidence, awareness, and the use of digital tools — positively impacts students' decisions.

SUGGESTIONS & CONCLUSION

SUGGESTIONS

Considering the above findings, the following suggestions are made:

- The universities must introduce mandatory financial literacy modules, which need to be taught independently of any other discipline such as commerce or management, so as to ensure that all students gain some basic financial knowledge regarding personal finances.
- An association between universities, fintech organizations, and financial regulatory bodies must be created in order to conduct financial literacy programs and workshops within university campuses, which will provide additional learning about financial management skills.
- The university administration must provide on-campus financial counseling centers with the help of RBI, SEBI, NISM etc especially targeting financially disadvantaged and non-business and commerce students
- Online platforms that provide budgeting software, investment analysis tools, and financial educational resources must create a user-friendly experience tailored to the Indian student's financial needs.

CONCLUSION

The study had a purpose of establishing the level of financial literacy awareness among the undergraduates and postgraduates and determining the extent to which financial literacy impacts decision-making. Results from the Chi-Square test show that there is statistically significance in relation to budgeting knowledge while the regression analysis indicates that financial literacy has significant influence on financial decisions. Nevertheless, some areas require attention because a large number of respondents are in a neutral position in relation to the variables involved in the survey. Importantly, the lack of a significant relationship between formal education and decision-making improvement poses some concerns.

To sum up, financial literacy is not a privilege; it is a necessity. The incorporation of financial literacy education within educational programs becomes mandatory to ensure the development of financially self-sufficient individuals who can contribute to a balanced economy.

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INVESTMENT BEHAVIOUR AMONG THE WORKING INDIVIDUALS; A STUDY WITH SPECIAL REFERENCE TO IN DAKSHINA KANNADA DISTRICT

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ABSTRACT:

Investment is a very important thing in an individual's life. Investing helps in creating wealth, their income. It plays a vital role in individuals' life. Investment behaviour has played an important role in financial planning among the working individuals who aims to achieve long term financial security. The people are started exploring different investment avenues to meet the future financial requirements, improve their standard of living. This study focuses on the investment behaviour of working individuals in Dakshina Kannada District based on their investment preferences, decision making patterns and factors influencing their investment choices.

*The research titled **"A Study on Investment Behaviour among the working Individuals in Dakshina Kannada District"** is based on primary data collected from 50 respondents using a structured questionnaire. The findings show that many of the respondents prefer a balanced investment strategy by combining traditional investment options such as bank deposits, gold, and insurance with modern investment avenues like mutual funds and stocks. Long-term wealth creation, financial security, and stable returns were identified as the key reasons behind investment decisions. It also highlights that investment behaviour is strongly influenced by factors such as expected returns, safety, liquidity, risk tolerance, and financial literacy. Individuals with better financial knowledge are more confident in exploring diversified investment opportunities. However, many of the respondents still rely on low-risk investment options because of limited awareness regarding market-linked products. The study emphasizes the need for financial literacy programs and professional financial guidance to help individuals make informed and effective investment decisions.*

Keywords: *Investment Behaviour, Financial Literacy, Investment Preferences, Working Individuals, Wealth Creation.*

INTRODUCTION:

The Investment behaviour refers to the decision-making patterns, preference, and psychological factors that influence how individuals or institutions allocate their money across different assets. It includes the factors like risk tolerance, market trends, financial knowledge, emotions and economic conditions. It also attracts the attitudes, emotions, and cognitive biases that affects the investment choices whether in stocks, bonds, real estate, crypto currencies or other asset classes. Understanding investment behaviour is crucial as it affects market movements, financial stability, and long-term wealth accumulation. Traditional economic theories assume that investors act rationally, maximizing their returns based on available information. But in reality, many investors are influenced by emotions, social trends, and psychological biases leading to irrational decision making, behavioural finance, a field that combines psychology and economics. Challenges in traditional theories by highlighting how cognitive biases-such as loss aversion, herd mentality and overconfidence-affect investment decisions. The factors influence investment behaviour, including personal risk tolerance, financial literacy, economic conditions and technological advancements. Retail investors, may react differently to market fluctuations compared to institutional investor, who often rely on complex models and strategies. In recent trends such as algorithmic trading and the rise of social media driven investment movements, have further shaped how people invest today.

Investment is the employment of funds with the aim of achieving addition income or growth in value. It is the favourable Purchase of financial product or other value with favourable future returns. Investors have many ways to investing to save their savings. Investment is a serious issue that can have big impact on the future of investors. The risk and rewards available for each of these investment methods vary from one investment method to another. Even if a person does not choose a particular asset such as stocks, investment is still made by participating in the pension plan, the saving plan in post office and the savings program for employees or through life insurance purchase. Financial investment puts money something with profit expectation after thorough analysis, has high degree of security of the original amount as well as guarantee return, with in expected time period. Putting money into something that is expected of profit without doing a thorough analysis is speculation or gambling.

There for financial investment involves the decision-making process to ensure the security of the both the original amount and the return on investment (ROI) over expected period of time. In the economy, investment refers to the commitment of funds currently expecting a positive rate of return in the future. The investor can obtain information about his investments in financial institution, financial markets media etc.

In Dakshina Kannada many types of investment media or channels are available for making investments. A sound investment program can be constructed if the investor familiarizes himself with the various alternative investments available.

The period witnessed wide range of policy changes focused on globalization, privatization and deregulation, which were implemented to ensure higher productivity, growth and prevent any further balance of payment crises like 1991. Even after the Asian financial crisis, investment in India had remained resilient during 1997-98 to 2000-01 as it was supported by a prudential monetary policy,

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appropriate interventions in the foreign exchange market and regulated capital flows by the reserve bank of India (RBI).

From 2003-04 to 2007-08, India experienced unprecedented growth in GDP, of around 9% p.a. which was accompanied by strong growth performances by the global economy (5% p.a.) and emerging economies (8% p.a). The empirical literature pertaining to India suggests that growth leads to savings. In accordance with these findings, higher growth during 2003 08 was accompanied by higher savings and thereby higher investment. The increase in aggregate investment was mostly contributed by private corporate sector investment.

Available avenues of investment

There are many types of investments available in the market. But all investment instruments are broadly based on the following four basic investment areas or assets classes: equity markets, debt markets, real estate and gold.

Equity investments include direct investment in Shares, equity mutual funds etc. stocks can be bought/sold from exchanges (secondary market) or through IPOs- initial public offerings (primary market).

Stocks are best long-term investment options wherein market fluctuations are resultant to the risk of losses, if given enough time, are mitigated by the general upward momentum of the economy. On an average an investment in equities outperforms in terms of return against all other asset classes in the long term.

Equity market is the place where businesses looking for equity capital can meet investor with money and engage in a transaction where investors buy equity in exchange for money. Apart from businesses, investors too can trade equity among themselves. There are two types of equity stocks available in the market based on their placement.

Publicly traded equity shares: although any business can issue equity shares to its investors, not every business can raise funds from the public. Only companies with a proven record of performance and a minimum capital size can opt for public listing and raise capital from retail investors through stock exchanges. The markets are heavily regulated by securities and exchange board of India (SEBI), which works to make markets transparent and reliable for investors.

Private equity denotes those shares that you may hold by investing, for instance in your friend's business or start-up. This market is less regulated and all the business risk is borne by investors. These companies cannot raise equity funds from the public or trade their equity shares stock exchanges, until they satisfy the criteria for raising capital investment from the public.

Debt investment includes investment in bonds, debentures, debt mutual funds etc. It is a fixed income (debt) instrument issued for a certain period with the purpose of raising capital. Central or state governments, corporations and similar institutions sell bonds. A bond is generally a promise to repay the principal along with a fixed Rate of interest on a specified date called as the maturity date.

Real estate investment could be in residential or commercial properties. Real estate is among the traditional investment assets for individuals. The Indian real estate market has seen Grate progress in terms of financing and investment opportunities in the sector. Real estate has also been one of the booming sectors in India. With rising population and economic growth, cities have been looking at increasing demand in residential and commercial real estate markets.

The Gold ETFs are professionally managed funds which invest in physical gold. Gold ETFs are Loose alternative to owning physical gold. They are traded on stock exchanges and we can buy them through stock broker. The units are credited to D-mat account like stocks. Sovereign gold bonds (SGBs) is a scheme by government of India to allow investors an alternative and safer route of benefiting from investments in gold, SGBs are safer than holding physical gold and investing in gold ETFs, as we receive 2.5% interest on your total investment for the holding period.

The present geo-political and economic conditions are not stable and this is one of the primary reasons to step up your investments through adequate planning. As stated earlier, the global economy has become unstable and increasingly volatile. Frequent fluctuations in market and financial conditions are the norm. Effective Investment Planning helps you to navigate these uncertainties and protect your assets. Rising inflation erodes purchasing power overtime. Proper investment planning ensures your money grows at a Rate that outpaces inflation, preserving and increasing your wealth.

Modern financial market offers a vast array of investment options, from traditional stocks and bonds to crypto currencies and other alternative assets. Investment planning helps to understand and identify the best investment choices in alignment with your goals and risk tolerance. Technology has transformed investment strategies and opportunities. Staying informed and strategically planning your investments can leverage these advancements for better returns.

The job market has become more dynamic than before, courtesy of gig economy jobs and freelance work. Investment planning provides financial stability and security amid career changes and uncertainties. Global markets are interconnected, meaning economic events in one part of the can impact investments globally.

Diversified investment planning can help mitigate risks associated with global economic changes. Financial regulations are continually evolving. Staying updated and adjusting your investment plan accordingly ensures compliance and optimizes your investment strategy. Individuals have unique financial objectives, such as buying a home, funding education, or starting a business. Increasing awareness and education about financial management have highlighted the importance of strategic investment planning.

Objectives Of Investment Planning

The primary objectives of investment planning are collectively contributed to a comprehensive plan that ensures your financial stability, economic growth, and the unhindered ability to meet both short-term and long-term financial aspirations. The other objectives include financial independent retirement: in order to ensure you have substantial funds to maintain your desired lifestyle after retiring, you need to make a strategic plan.

Need for The Study:

Dakshina Kannada district is considered one of the financially progressive regions in Karnataka because of its high literacy rate, strong banking infrastructure, and increasing awareness about financial products and services. Dakshina Kannada district is located in the state of Karnataka in India.

They are 10 taluks in Dakshina Kannada. According to the 2011 census, Dakshina Kannada has a population of 2,089,649, of which male and female were 1,034,714 and 1,054,935 respectively. The growing participation of working individuals in different investment avenues makes the district an ideal area for studying investment behaviour.

This study aims to analyse the investment patterns, preferences, and decision-making behaviour of working individuals in Dakshina Kannada district. It also examines the role of financial literacy in helping individuals make informed investment decisions for long-term wealth creation and financial stability.

OBJECTIVES OF THE STUDY

This research includes the following objectives:

1. To study the investment behaviour of working individuals in Dakshina Kannada district
2. To analyse the investment pattern and preferences of working individuals.
3. To examine the factors influencing investment decisions of working individuals.
4. To identify the relationship between the financial literacy and investment behaviour.

RESEARCH METHODOLOGY:

The research is based on both primary and secondary sources of data. The primary data was collected from the 50 respondents who are belongs to different taluks of Dakshina Kannada district. The convenience sampling method is used for collection of data. The collected data was analysed by using statistical tools such as percentage analysis, chi-square tests, and one-way ANOVA tests.

Secondary data for the study was collected from books, journals, research articles, and relevant online resources to provide theoretical support and background information for the research.

Hypothesis 1

- H_0: There is no Significant relationship between financial literacy and its impact on investment decisions.
- H_1: There is a significant relationship between financial literacy and its impact on investment decisions.

Hypothesis 2

- H_0: there is no significant relationship between the risk tolerance and its influence on investment preferences.
- H_1: there is a significant relationship between the risk tolerance and its influence on investment preferences.

Review of Literature

- Mak, M. K. Y., and Ip, W. H. (2017) conducted an exploratory study on the saving and investment behaviour of individual investors by integrating behavioural aspects with traditional financial theories. The study analysed factors like portfolio management, investment objectives, financial market knowledge, investment frequency, investor types, risk tolerance, expected returns, and decision-making support. The research concluded that investment decisions are often influenced by psychological and behavioural factors rather than pure rationality.

- Jain, P., and Tripathi, L. K. (2019) reviewed investment behaviour in the context of a modern economy that offers a wide range of investment opportunities. The study focused on the importance of proper financial planning and investment strategies in helping individuals build wealth and secure their future. It also highlighted the close relationship between savings, investments, and economic growth.

- Jureviciene, D., and Jermakova, K. (2012) examined the impact of behavioural finance on investment decisions among Lithuanian residents. The study identified the cognitive biases had a greater influence on investment decisions than emotional factors. The researchers also suggested corrective methods to reduce behavioural biases and improve financial decision-making.

Limitations of the Study

1. The study is limited only to Dakshina Kannada district, so the findings may not represent the investment behaviour of individuals in other regions.
2. The study is purely based on responses from only 50 participants, which may not fully represent the views of the entire working population.
3. Since the study was conducted during a specific period of time, the findings may change over time due to changing market conditions and investment trends.
4. The accuracy of the study depends on the honesty and understanding of the respondents while answering the questionnaire.
5. Convenience sampling method is used for collecting the data. Therefore, all the type of working individuals is not included in the research.

Analysis of the Study:

The Data collected from the 50 working individuals of Dakshina Kannada District through structured questionnaire. The analysis involves organising and examining the collected data by using statistical tools. The data interpretation explains the results to understand the investment behaviour of respondents. This study analyses and interprets the investment behaviour of working individuals based on the responses obtained from the questionnaire.

Table1: Taluk of the respondents

Sl.no	Options	No. of responses	Percentage
1.	Mangalore	16	32%
2.	Puttur	27	54%
3.	Sullia	1	2%
4.	Bantwal	5	10%
5.	Belthangady	1	2%
TOTAL		50	100%

The most respondents are from Puttur (54%) and Mangalore (32%), with smaller numbers from Sullia, Bantwal, and Belthangady. This shows that the majority of participants come from semi-urban or urban areas, with Puttur being the leading location.

Table 2: Table showing age of the respondents

Sl.no	Options	No. of Responses	Percentage
1.	Below 20		-
2.	20-30	30	60%
3.	30-40	8	16%
4.	40-50	5	10%
5.	Above 50	7	14%
TOTAL		50	100%

The majority of respondents (60%) are between 20-30 years old, suggesting that the survey mainly reflects a younger population, likely starting their careers and exploring investment options. Only a small portion (16%) are aged between 30-40 years.

Table 3: The occupation of the respondents

Sl.no	Options	No. of responses	Percentage
1.	Self employed	11	22%
2.	Government employee	4	8%
3.	Private sector employee	21	42%
4.	Professionals	9	18%
5.	Student	2	4%
6.	Retired govt. employee	1	2%
7.	Education	1	2%
8.	Interior designer	1	2%
TOTAL		50	100%

The most respondents work in the private sector (42%), followed by those who are self-employed (22%) and professionals (18%). A smaller number are students (4%) or retired (2%), showing that the sample consists mainly of working individuals.

Table 4: The monthly income of the respondents

Sl.no	Options	No. of responses	Percentage
1.	Below ₹20,000	16	32%
2.	₹20,000-₹50,000	18	36%
3.	₹50,000- ₹1,00,000	9	18%
4.	Above ₹1,00,000	7	14%
TOTAL		50	100%

From the above table it is clear that most respondents earn between ₹20,000 and ₹50,000 (36%) or below ₹20,000 (32%). A smaller group earns more than ₹50,000. This shows that the majority have a middle-income background, with a few high earners.

Table 5: The highest educational qualification of the respondents

Sl.no	Options	No. of responses	Percentage
1.	High school	1	2%
2.	Diploma	3	6%
3.	Graduate	26	52%
4.	Post graduates	20	40%
TOTAL		50	100%

The above table 5 shows that large majority are well-educated: 52% are graduates, and 40% are postgraduates. Only a few have completed high school or diplomas, indicating that most respondents are capable of understanding financial concepts.

Table 6: Types of financial instruments invested by the respondents

Sl.no	Options	No. of responses	Percentage
1.	Stocks	25	50%
2.	Mutual Funds	23	46%
3.	Fixed deposit	25	50%
4.	Real estate	9	18%
5.	Gold	23	46%
6.	Recurring deposit	1	2%
7.	Others	3	6%
TOTAL		109	218%

The above table 6 shows that respondents mostly invest in stocks (50%), fixed deposits (50%), and mutual funds (46%), with gold (46%) also being a popular choice. Real estate (18%) is less common. This suggests that most people prefer safer, liquid investments.

Table 7: The primary investment goal of the respondents

Sl.no	Options	No. of responses	Percentage
1.	Short term gains	3	6%
2.	Long term with wealth creation	41	82%
3.	Regular income	6	12%
4.	Tax savings	0	0
TOTAL		50	100%

The main goal for most people is long-term wealth creation (82%), followed by regular income (12%) and short-term gains (6%). This shows that the respondents are more focused on sustainable growth than quick profits.

Table: 8: The decision basis for investment by respondents

Sl.no	Basis for decision making	No. of responses	Percentage
1.	Personal research	23	46%
2.	Advice from friends and family	15	30%
3.	Advice from financial advisors	7	14%
4.	Online reviews/ advertisements	5	10%
TOTAL		50	100%

The above table 8 shows that a majority of individuals make decisions based on their personal research (46%), followed by advice from family and friends (30%). Only 14% seek advice from financial advisors. This highlights a strong preference for self-reliance when it comes to investments.

Table 9: The monthly allocation of salary towards investments

Sl.no	Options	No. of responses	Percentage
1.	Below 10%	20	40%
2.	11%-20%	20	40%
3.	21%-30%	6	12%
4.	Above 30%	4	8%
TOTAL		50	100%

The above table 9 shows that most respondents invest a small portion of their income. 40% invest less than 10%, and another 40% invest between 11-20%. Only a small percentage (12%) invest 21-30%. This shows that most people are careful about how much of their income they put into investments.

Table 10: The importance of risk tolerance

Sl.no	Options	No. of responses	Percentage
1.	Very important	31	62%
2.	Somewhat important	13	26%
3.	Not very important	5	10%
4.	Not at all important	1	2%
TOTAL		50	100%

The above table 10 shows that most respondents (62%) consider risk tolerance to be very important when making investment decisions. 26% of respondents consider risk tolerance to be somewhat important and 10% of respondents consider risk tolerance to be not very important. This shows that respondents are generally aware of the risks involved in investing.

Table 11: The factors influencing investment decision

Sl.no	Options	No. of responses	Percentage

1.	Risk tolerance	21	42%
2.	Return on investment	38	76%
3.	Liquidity	20	40%
4.	Tax implications	16	32%
5.	Advice from financial advisors	10	20%
6.	Online reviews	5	10%
TOTAL		110	220%

The above table 11 shows that the most important factors for investment decisions are return on investment (76%) and risk tolerance (42%). Liquidity (40%) and tax implications (32%) also matter, showing that people weigh both financial returns and personal risk when choosing investments.

Table 12: The management of investment

Sl.no	Options	No. of responses	Percentage
1.	Self-managed	38	76%
2.	Managed by a financial advisor	5	10%
3.	Managed by a family member/friend	7	14%
TOTAL		50	100%

The above table 12 shows that the majority (76%) self-manage their investments, while only 10% rely on a financial advisor. This suggests a strong preference for self-directed investment management.

Table 13: Emergency Fund Availability:

Options	**No of Respondents**	**Percentage**
Yes	35	70%
No	15	30%
Total	50	100%

The majority of the respondents (70%) have maintained an emergency fund, while 30% do not have any emergency savings. This indicates that most individuals are financially prepared to handle unexpected expenses or emergencies.

Table 14: Portfolio Review Frequency

Frequency	**No of Respondents**	**Percentage**
Quarterly	18	36%
Bi-Annually	13	26%
Annually	11	22%
Rarely	8	16%
Total	50	100%

The above table shows how frequently respondents review their investment portfolios. A majority of the respondents (36%) review their investments quarterly, while 26% check them bi-annually. Around 22% review their portfolios once a year, whereas 16% rarely monitor their investments. This indicates that most respondents understand the importance of regularly tracking their investments to ensure better financial management and returns.

Hypothesis 1

- H_0: There is no Significant relationship between financial literacy and its impact on investment decisions.
- H_1: There is a significant relationship between financial literacy and its impact on investment decisions.

Table showing Chi - Square Test Financial Literacy and investment decisions.

Calculated X^2 Value	Degree of Freedom (df)	Table value (5% Level)	Decison
7.73	5	3.84	Reject H_o

Since the calculated value (7.73) is higher than the table value (3.84), the null hypothesis is rejected. This indicates that financial literacy plays a significant role in influencing investment decisions. The individuals who are having better financial knowledge are more likely to make informed and effective investment choices.

Hypothesis 2

- H_0: there is no significant relationship between the risk tolerance and its influence on investment preferences.
- H_1: there is a significant relationship between the risk tolerance and its influence on investment preferences.

Table: One-Way ANOVA Test for Risk Tolerance and Investment Preference

Source of Variation	**Sum of Sqares (SS)**	**Degrees of Freedom (df)**	**Mean Square (MS)**	**Calculated F Value**	**Table F Value (5% level)**	**Decision**	**Result**
Between the Group	10.86	2	5.43	6.52			
Within the Group	39.20	47	0.83		3.20	Reject H_o	Significant

Since the calculated F value (6.52) is greater than the table value (3.20) at the 5% level of significance, the null hypothesis is rejected. This shows that risk tolerance has a significant influence on investment preferences. It indicates that individuals with different levels of risk tolerance tend to choose different types of investment options based on their willingness to take financial risks.

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FINDINGS

1. The study reveals that a majority of the respondents belong to the 20–30 years age group, indicating that young people today are becoming more conscious about saving money and making investments for a secure future.
2. A considerable number of respondents are employed in the private sector or engaged in self-employment, which motivates them to focus more on financial stability and future security.
3. Most of the respondents fall under the middle-income category. As a result, they prefer investment options that are safe and manageable while also meeting their regular financial responsibilities.
4. The findings show that a large proportion of respondents are well educated, enabling them to understand financial planning and various investment opportunities more effectively.
5. Respondents generally prefer a balanced investment approach by choosing both safe and return-oriented options such as fixed deposits, gold, mutual funds, and stocks.
6. Creation of Wealth and long-term financial security are the primary reasons behind investment decisions among most respondents.
7. The study also highlights that many respondents rely on personal research along with suggestions from family members and friends before making investment choices.
8. Most respondents invest only a small portion of their income, reflecting careful financial planning, controlled spending habits, and disciplined budgeting practices.
9. Medium-term and long-term investment plans are more commonly preferred than short-term investments, showing a future-oriented mindset among respondents.
10. Only a limited number of respondents have started retirement planning, indicating the need for greater awareness regarding long-term financial security after retirement.
11. Even though respondents recognize the importance of financial literacy, many of them have not participated in formal financial awareness or educational programs.
12. The majority of respondents feel moderately confident in handling their investments and making financial decisions independently.
13. Respondents are generally aware that diversification helps in reducing investment risk, and many of them try to spread their investments across different options.

SUGGESTIONS

- Financial literacy programs should be promoted at the lower level so that people from all sections of society can better understand saving, investing, and financial planning.
- Young individuals should be encouraged to develop investment habits at an early stage of their careers, as this can help them achieve long-term financial security and wealth creation.
- Greater awareness needs to be created regarding different investment avenues and the importance of diversification in reducing financial risk and improving returns.
- Easy access to qualified financial advisors should be provided so that individuals can make informed and effective investment decisions based on their financial goals.
- More initiatives and awareness campaigns should be introduced to

encourage people to start retirement planning early and secure their future financial needs.

- Investors should be encouraged to review their investment portfolios regularly and adopt proper risk management practices.

CONCLUSION:

The study on the investment behaviour of working individuals in Dakshina Kannada shows that people are becoming more aware of financial planning and the importance of investing for future security. Most respondents, especially younger individuals, are interested in building wealth and achieving financial stability at an early stage of life. Respondents prefer a balanced investment approach by choosing both traditional and modern investment options. Overall, the findings indicate that working individuals are gradually becoming more responsible and informed investors. With proper financial education and guidance, individuals can achieve better financial well-being and long-term security.

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CONSUMER EVALUATION OF E-GOVERNANCE FACILITIES OFFERED BY THE GOVERNMENT OF INDIA

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ABSTRACT

E-Governance refers to the application of information and communication technology, particularly internet-based platforms, to facilitate the delivery of government services to citizens, businesses, and other government agencies. The increasing digitalization of public services has transformed the manner in which citizens interact with government institutions by providing faster, more transparent, and efficient service delivery mechanisms. With the growing use of internet and mobile technologies, citizens increasingly expect government services to be easily accessible, reliable, and corruption-free.

The Government of India has introduced numerous e-governance initiatives to improve administrative efficiency and enhance public service delivery. However, the success of these initiatives largely depends upon citizens' awareness, accessibility, usability, and overall satisfaction with the services offered. Therefore, understanding consumer evaluation of these facilities becomes essential for improving service quality and ensuring greater public participation in digital governance.

The present study attempts to evaluate consumers' perceptions regarding e-governance facilities offered by the Government of India. Primary data were collected through a structured questionnaire administered to respondents residing in Mumbai. The study examines the level of awareness, usage patterns, perceived usefulness, and reliability of various e-governance services. The findings provide useful insights into customer evaluation of these services and identify areas where improvements can further enhance user satisfaction and service effectiveness.

Keywords: *Consumer Evaluation, E-Governance, Government Services, Internet, Public Service Delivery.*

1. INTRODUCTION

The twenty-first century has witnessed rapid technological advancement, significantly transforming the manner in which governments interact with citizens. The widespread adoption of internet technologies has revolutionized public administration by enabling governments to provide essential services through digital platforms. Consequently, e-governance has emerged as an important instrument for enhancing transparency, accountability, efficiency, and accessibility in public service delivery.

E-governance refers to the use of information and communication technology by government institutions for providing services, disseminating information, and facilitating communication with citizens, businesses, and other governmental agencies. The primary objective of e-governance is to simplify administrative procedures, reduce bureaucratic delays, and improve the overall quality of public services.

In recent years, the Government of India has undertaken several initiatives to promote digital governance by introducing numerous online services for its citizens. These services include online payment of utility bills, filing of income tax returns, registration of birth and death certificates, passport services, digital identity management, and several other citizen-centric services. Such initiatives have considerably improved administrative efficiency while reducing the time, effort, and cost involved in accessing government services.

The implementation of e-governance has also contributed towards increasing transparency in government operations by reducing human intervention and minimizing opportunities for corruption. Furthermore, digital platforms have strengthened the relationship between citizens and the government by enabling easier access to information and facilitating greater public participation in governance. Citizens are now more aware of their rights and responsibilities and can provide valuable feedback to government agencies regarding the quality and effectiveness of public services.

Despite the significant progress achieved in the field of digital governance, the effectiveness of e-governance services ultimately depends upon their acceptance and utilization by citizens. Factors such as awareness, ease of use, accessibility, reliability, and overall user satisfaction play an important role in determining the success of these initiatives. Therefore, evaluating consumer perceptions regarding e-governance services becomes essential for identifying existing challenges and recommending measures for further improvement.

The present study focuses on evaluating consumers' perceptions of e-governance facilities offered by the Government of India and examines the extent to which these services have contributed towards improving citizens' overall service experience.

2. REVIEW OF LITERATURE

An extensive review of previous studies provides valuable insights into the development, implementation, and effectiveness of e-governance initiatives across different countries. The existing literature highlights both the opportunities and challenges associated with digital governance and emphasizes the importance of citizen-centric service delivery.

Gronlund (2005) emphasized that while defining e-government and e-governance, governments must ensure that information is accessible to a broad section of society. The author argued that every region possesses unique social and economic characteristics; therefore, government information should be presented in a simple and understandable manner to enable effective public participation and maximize the benefits of digital governance.

Mrinalini Shah (2007), in the study titled *E-Governance in India: Dream or Reality?*, discussed several challenges affecting the successful implementation of e-governance initiatives in India. The study identified inadequate infrastructure, low literacy levels, limited digital literacy, lack of awareness, bureaucratic complexities, and socio-economic disparities as major obstacles in rural areas. For urban populations, concerns regarding security, privacy, and time constraints were highlighted as significant issues influencing the adoption of e-governance services.

Dr. Sita Vanka, K. Sriram, and Dr. Ashok Agarwal (2007), in their panel discussion on *Critical Issues in E-Governance*, suggested that Government of India projects should be developed based on Enterprise Architecture frameworks. According to the authors, such frameworks would ensure that government services remain citizen-centric, transparent, secure, flexible, result-oriented, and technologically integrated while maintaining uniform standards across various government departments.

Kedar Kadam (2008), in the article *Usability: High Value Proposition for Successful E-Governance in India*, emphasized that the diversity and size of India's population present unique challenges in designing digital government services. The author argued that citizens possess high expectations from democratic governments and, therefore, e-governance systems must be carefully designed to ensure usability, accessibility, and user satisfaction. The study highlighted that successful implementation depends not only on technological advancement but also on creating user-friendly interfaces that encourage widespread public adoption.

The review of literature indicates that while e-governance has significantly improved the efficiency of public service delivery, several challenges continue to influence its successful implementation. Previous studies have primarily focused on technological infrastructure, accessibility, usability, transparency, and administrative effectiveness. However, there remains a need to understand consumers' perceptions regarding the awareness, utilization, reliability, and overall effectiveness of e-governance services offered by the Government of India. The present study seeks to contribute to the existing body of knowledge by examining consumer evaluation of these services from the users' perspective.

3. NEED AND IMPORTANCE OF THE STUDY

The rapid advancement of information and communication technology has significantly transformed the manner in which governments deliver public services. In recent years, the Government of India has introduced numerous e-governance initiatives with the objective of providing transparent, efficient, and citizen-centric services. These initiatives have reduced the dependence on traditional manual procedures and have enabled citizens to access various government services through digital platforms. However, the success of these initiatives depends not only on their availability but also on the extent to which citizens are aware of, utilize, and are satisfied with these services.

Although considerable investments have been made in developing digital governance infrastructure, there continues to be a need to evaluate whether these services effectively meet the expectations of users. Consumer evaluation provides valuable insights into citizens' perceptions regarding the accessibility, usability, reliability, and effectiveness of e-governance services. Such evaluation assists policymakers in identifying existing gaps and formulating strategies for improving the quality of public service delivery.
The present study is significant as it attempts to assess consumers' awareness and evaluation of e-governance facilities offered by the Government of India. The findings of the study may assist government authorities in understanding user experiences and contribute towards enhancing digital governance initiatives for improved public satisfaction.

4. STATEMENT OF THE PROBLEM

The Government of India has introduced several e-governance services to improve administrative efficiency and provide faster and more transparent public services. Despite the availability of these facilities, the extent to which citizens are aware of these services, utilize them effectively, and perceive them to be reliable remains an important area of investigation.

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Many users continue to encounter challenges while accessing online government services due to factors such as limited awareness, technological barriers, usability issues, and concerns regarding reliability and security. These challenges may influence the overall acceptance and effectiveness of e-governance initiatives.

Therefore, there is a need to evaluate consumer perceptions regarding the e-governance facilities provided by the Government of India. Understanding users' experiences will help identify areas requiring improvement and contribute towards developing more efficient, user-friendly, and citizen-centric digital government services.

5. OBJECTIVES OF THE STUDY

The study has been undertaken with the following objectives:

1. To study the various e-governance services provided by the Government of India.
2. To evaluate the level of awareness among consumers regarding e-governance facilities.
3. To examine how the Government can improve these services and enhance their reliability.
4. To understand whether e-governance services have improved the lives of consumers.

6. HYPOTHESES OF THE STUDY

The study tests the following hypotheses:

Hypothesis 1

$H0_1$: There is no significant relationship between the age of respondents and the use of e-governance facilities.

$H1_1$: There is a significant relationship between the age of respondents and the use of e-governance facilities.

Hypothesis 2

$H0_2$: There is no significant relationship between the services provided by the Government and the awareness of people using these services.

$H1_2$: There is a significant relationship between the services provided by the Government and the awareness of people using these services.

Hypothesis 3

$H0_3$: There is no significant relationship between the use of e-governance services and their perceived reliability.

$H1_3$: There is a significant relationship between the use of e-governance services and their perceived reliability.

7. RESEARCH METHODOLOGY

Research methodology provides the systematic framework adopted for conducting the present investigation. It explains the methods employed for data collection, sampling, questionnaire design, and analysis of the collected information.

The study is based on both primary and secondary data.

Primary data were collected using a structured questionnaire administered through Google Forms. The questionnaire was designed to obtain responses regarding consumers' awareness, usage, perceptions, and evaluation of various e-governance services provided by the Government of India. The structured nature of the questionnaire ensured uniformity in responses and facilitated statistical analysis.

Secondary data were collected from published research journals, official government reports, dissertations, theses, conference papers, books, and authentic online sources. These sources provided the theoretical foundation and conceptual understanding necessary for conducting the research.

The study was carried out among residents of Mumbai. A total of 52 respondents participated in the survey through convenient sampling. The questionnaire primarily consisted of structured multiple-choice questions, enabling respondents to provide clear and objective responses while facilitating efficient coding and analysis of the collected data.

The responses obtained from the survey were compiled, classified, and analysed to understand consumer evaluation of e-governance services. Appropriate statistical tools were employed to interpret the data and draw meaningful conclusions regarding awareness, usage behaviour, and customer perceptions towards e-governance facilities offered by the Government of India.

8. RESULTS AND DISCUSSION

The present study analyses the responses collected through the structured questionnaire to evaluate consumers' perceptions regarding e-governance services offered by the Government of India. The responses obtained from the respondents were compiled and analysed to understand their awareness, usage patterns, satisfaction levels, and overall evaluation of the services.

The survey indicates that a majority of respondents are aware of e-governance services offered by the Government of India. Most respondents became familiar with these services through internet-based sources, highlighting the significant role of digital media in promoting government initiatives.

Among the various e-governance services available, online bill payment emerged as the most frequently utilized service, followed by online income tax filing and other digital government services. This suggests that consumers are more likely to adopt services that offer convenience, reduce paperwork, and save time.
The findings further reveal that a majority of respondents perceive government websites as user-friendly and are generally satisfied with the services provided. The availability of online services has reduced travel time, minimized administrative delays, and improved accessibility to government facilities.

However, despite the positive evaluation, certain respondents expressed concerns regarding the complexity and outdated design of some government websites. These findings indicate that continuous technological improvements and regular updating of digital platforms are necessary to enhance user experience and encourage wider adoption of e-governance services.

Overall, the analysis suggests that consumers have a favourable perception of e-governance initiatives while simultaneously identifying specific areas where improvements can further strengthen public satisfaction and service quality.

9. FINDINGS

The analysis of the responses collected from the respondents provides several important insights into consumer evaluation of e-governance facilities offered by the Government of India. The major findings of the study are presented below:

1. The demographic profile of the respondents indicates that the majority of the participants belonged to the age group below 30 years. However, the study also included respondents from different age groups, thereby ensuring representation across various sections of society.
2. The study reveals a high level of awareness regarding e-governance facilities among the respondents. Almost all the participants were familiar with one or more online government services, indicating that digital governance initiatives have gained considerable visibility among citizens.
3. Internet-based platforms emerged as the primary source of awareness regarding e-governance services. Approximately 90.3 percent of the respondents reported that they became aware of these services through the internet, highlighting the significant role of digital communication in promoting government initiatives.
4. Among the various e-governance services available, online bill payment was found to be the most frequently used service, followed by online income tax filing and other digital public services. This indicates that citizens are more inclined to use services that provide convenience, reduce paperwork, and save time.
5. A majority of respondents expressed satisfaction with the overall functioning of government websites and considered them to be user-friendly. The findings suggest that digital platforms have simplified access to government services

and improved the overall service delivery process.

6. Although respondents generally expressed positive opinions regarding e-governance facilities, certain limitations were also identified. Some participants indicated that a few government websites were difficult to navigate, lacked updated information, or required improvements in design and functionality.
7. Overall, the findings suggest that e-governance services have been positively accepted by consumers and have contributed towards improving accessibility, convenience, transparency, and efficiency in public service delivery.

10. RECOMMENDATIONS / SUGGESTIONS

Based on the findings of the study, the following recommendations are proposed for improving the effectiveness of e-governance services offered by the Government of India:

1. Government departments should undertake extensive awareness programmes to educate citizens about the availability and benefits of various e-governance services.
2. Government websites and mobile applications should be regularly updated to improve usability, accessibility, and overall user experience.
3. Simplified navigation, multilingual support, and user-friendly interfaces should be incorporated to ensure that citizens belonging to different educational and socio-economic backgrounds can easily access digital services.
4. Stronger cybersecurity measures and enhanced data privacy mechanisms should be implemented to increase citizens' confidence in using online government platforms.
5. Regular customer feedback mechanisms should be established to identify operational issues and continuously improve service quality.
6. Training programmes and digital literacy initiatives should be conducted, particularly in rural and semi-urban areas, to encourage wider adoption of e-governance services.
7. Government agencies should promote mobile-based governance solutions to increase accessibility and convenience, considering the widespread use of smartphones among citizens.

11. CONCLUSION

The implementation of e-governance has significantly transformed the delivery of public services in India by making government services more accessible, transparent, and efficient. The increasing adoption of digital technologies has enabled citizens to access various government services conveniently without the need for physical visits to government offices.

The findings of the present study indicate that consumers possess a high level of awareness regarding e-governance facilities and generally hold favourable perceptions towards these services. Online platforms have enabled citizens to save time, reduce travel costs, and improve convenience while interacting with government departments. The study further reveals that respondents perceive government websites to be largely user-friendly and effective in delivering public services.

However, despite these positive developments, certain challenges continue to exist. Respondents identified issues relating to website usability, outdated interfaces, and the need for continuous technological improvements. Addressing these concerns will further strengthen public confidence and encourage greater utilisation of digital government services.

Overall, the study concludes that e-governance has emerged as an effective instrument for improving public service delivery in India. Continuous technological innovation, improved digital infrastructure, greater public awareness, and regular evaluation of user experiences will contribute towards making e-governance initiatives more inclusive, reliable, and citizen-centric.

12. SCOPE FOR FURTHER RESEARCH

The present study was conducted among respondents residing in Mumbai and therefore represents the perceptions of consumers within a limited geographical area. Future research may be undertaken on a larger scale by including respondents from different states and regions of India to obtain a more comprehensive understanding of consumer perceptions towards e-governance services.

Further studies may compare consumer evaluation across urban and rural populations to identify regional differences in awareness, accessibility, and utilisation of digital government services.

Researchers may also investigate additional factors such as digital literacy, trust in government, cybersecurity concerns, service quality, and technological readiness that influence the adoption and effectiveness of e-governance initiatives.

Longitudinal studies examining changes in consumer perceptions over time may provide valuable insights into the evolving effectiveness of digital governance policies and future government initiatives.

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2026 and Beyond: Will the Quick Commerce Model Be Sustainable?

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ABSTRACT

Quick commerce offers a limited selection of grocery products that can be ordered by customers in the quantities that they need or desire, with a delivery fee being charged. It promises to deliver small quantities of grocery items to customers on demand within a stipulated time limit of 30 minutes to 1 hour. Consumers who do not wish to stock inventories of grocery items can opt for the quick commerce model. However, delivery charges can be steep, as this is what will earn revenues for customers. In other online grocery services models, customers are incentivised through discounts and offers to buy larger volumes of grocery items—in most cases, delivery charges are minimal or waived off. Grocery suppliers get grocery items in bulk at attractive prices, and they sell these to consumers with an appropriate pricing strategy suited to take care of their margins. However, quick commerce services have to provide consumers with the grocery items in the quantity that they need or demand. Volume selling then becomes a challenge. But in terms of convenience and speed of delivery, quick commerce presents an attractive value proposition for time-starved consumers who value the convenience of receiving the grocery items that they wish to order at a time that suits them. Now that quick commerce firms offer a wide assortment of grocery and non-grocery products, they have managed to lure customers with this value proposition. This research investigates whether the quick commerce business model has the bandwidth to sustain in the long run.

Keywords: E-Grocery, Loyalty, Online grocery, Quick commerce.

INTRODUCTION

2017 can be considered the year when online shopping reached an inflexion point. Smartphone technology has developed by leaps and bounds. Smartphone penetration reached 80% worldwide. Between March 2020 and April 2020, in the US, e-commerce sales increased to 49%. This increase was led by online grocery with a 110% boost in daily sales. The pandemic has played no small role in expanding the business footprint of online grocery retail. In the US, many offline retailers were forced to embrace the online channel due to COVID-19.

Amazon Go is an example of a hybrid omnichannel shop where online shopping is combined with physical storefronts. Consumers' online purchasing habits are tracked. Groceries can be picked up at a physical store while returning home from the office.

Quick Commerce Business Models

Players who deliver groceries online employ four primary business models

1. **Goods Model**: Orders are processed and shipped from warehouses with inventory that e-commerce companies buy and sell (Big Basket, Blinkit, Amazon).
2. **Hyperlocal Model** (Dunzo, Swiggy Instamart): Delivery partners pick up orders from nearby physical stores to do last-mile deliveries.
3. **Multi-vendor Marketplace Model**: Orders are routed to nearby physical retailers who then employ their own employees to make local deliveries.
4. **Swiggy Instamart's Hybrid Model**: Combines the inventory and hyperlocal delivery formats to complete orders in 30 minutes.

Quick commerce business models can be further segmented as:

- **Vertically integrated models** – Start-ups like Blink It and Zepto manage end-to-end delivery of groceries—right from stocking inventory in their own dark stores to facilitating efficient pick-up and delivery of grocery items within 10-30 minutes. Speed and convenience are the unique selling propositions.
- **Third-party delivery platforms** – Swiggy, Instamart and Dunzo collect and deliver products from third-party retailers to buyers. The time window varies from 30 minutes to hours. These platforms provide a wider choice of grocery items for consumers as they can access the grocery items from various retailers. In fact, at one point in time, Dunzo, which was a vanilla delivery firm, started stocking grocery items in its micro fulfilment centre.
- **Direct to Customer Quick Commerce** – D2C companies tie up with instant delivery providers who use fulfilment centres to deliver goods.

Generally, delivery periods in traditional e-commerce vary from 2 to 4 days. Inventory is stocked in warehouses, and a wide variety of products are available. Delivery is typically clustered based on location and completed using large vehicles. Customers are enticed to purchase additional volumes through offers and discounts.

In quick commerce, the delivery period ranges from 10 minutes to 1 hour, although the 10-minute delivery promise is increasingly appearing unviable. *The Economic Times* reported on 24th January 2023 that Zomato had abandoned its plans to scale up the 10-minute food delivery format it had piloted. Some grocery players have established threshold limits for delivery charges—for example, orders of ₹100 and above may not incur any delivery fees. However, this incentive varies from one grocery supplier to another.

GLOBAL HISTORY OF ONLINE GROCERY RETAIL

In 1984, in Gateshead, England, a 72-year-old grandmother named Jane Snowball ordered margarine, cornflakes and eggs using her television remote. Michael Aldrich invented the Videotex system that was used by Snowball. Aldrich turned her TV into a computer terminal. The Videotex technology was used to generate a shopping list on the TV screen, and the order was communicated to the local Tesco store. The goods were delivered door-to-door. This was conceived as a service for the elderly and the disadvantaged. The system relied on the development of a closed network of computers.

Globalisation in the mid-1990s proved to be a game-changer for e-commerce. Scaling up of production and sale of products at different price tiers became a distinct possibility. Consumers could, thanks to the Internet, search for goods at price ranges that they desired. Evaluation of price to value ratio was the added benefit for consumers.

A massive shift in consumer behaviour was what sowed the seeds for the growth of E-commerce across the globe. Online shopping made democratic consumption an easier affair.

In 1994, Pizza Hut started selling pizzas online through the Pizza Net portal (a flat, grey website). In the same year, a computer whiz kid called Daniel M Kohn (aged 21) set up an online marketplace called Net Market. The first online purchase was Sting's Ten Summoner's Tales on CD, bought from Net Market for £10 (1994). Amazon was launched in 1994, followed by eBay in 1995.

Webvan, an online grocery firm, was launched in California in 1996. In 1997, Homegrocer.com was the first online supermarket player (Washington). By mid-2000, sales reached over $1 million a day. The firm was able to achieve scale through rapid expansion in other areas in the USA. HomeGrocer.com, which was losing money, sold up to Webvan in September 2000. Webvan filed for bankruptcy in July 2001 (the brand was later bought by Amazon). Rakuten, Japan's biggest e-commerce site, was launched in 1997. China's Alibaba was launched in 1999.

In the 1990s, customers started ordering products online. Early movers in the online grocery space were technology companies that used their knowledge of coding and systems. The first successful online grocery store that has sustained is Ocado, founded in England in 2000. Ocado partnered with Waitrose, a supermarket and reached 10 million households by 2005.

Online channels experienced initial bottlenecks, such as challenges in making online payments and customers' perception of loss of privacy. The attractive features of shopping online were convenience, opportunities for customization and cost savings.

HISTORY OF ONLINE GROCERY RETAIL IN INDIA

In 1999, Hari Menon, Abhinay Choudhari, Vipul Parekh, VS Sudhakar and VS Ramesh launched an online retail website called Fabmart. Despite its failure, the team launched another venture. This was a chain of physical grocery stores called "Fabmall". This was later merged with another grocery retail chain called 'Trinethra'. The stores had presence in the Southern states of Andhra Pradesh, Kerala, Tamil Nadu and Karnataka. The entire chain of stores was then sold to Aditya Birla Group. Big Basket was launched by the team in December 2011.

Zop Now had launched an online grocery store in India in 2011. It was founded by Mukesh Singh and Bal Krishna Birla. It pivoted from the inventory model to a pure play model in 2014. The assets of the company were sold to More Stores before it was acquired jointly by Samara and Amazon in September 2018. The start-up was unable to grow due to its inability to raise capital. It shut down its operations in 2019. Other online grocery retailers that shut shop were Peppertap and Local Banya.

In India, where only 0.15% of Indians (2 million out of 1.35 billion) currently shop through online channels, the online grocery market is expected to grow at a high CAGR of 68.66% to reach a value of Rs 1034 billion by 2023. This growth will be primarily driven by user-friendly technology, easy access and reach.

Delivery speed is crucial for customer engagement, but this does not mean that offerings to customers or the customer value proposition can be compromised. Collaboration of online grocers with local kirana shops will help meet consumer demand with greater agility.

An increase in demand for remote storage facilities and fulfilment centres is a clear indication of the prospects for the online grocery retail sector. The next wave of value growth will emerge from Tier-II cities in India, with rural demand expected to drive volumes. Convenience has now become the hygiene factor in online grocery retail, and leveraging the power of digitisation is the logical next step.

GLOBAL PERSPECTIVES ON QUICK COMMERCE

The European Landscape: Rise and Challenges

The rapid emergence of quick commerce for grocery delivery has fundamentally reshaped the retail landscape in Europe. As explored in a master's thesis by Tim Reif (2022), this business model is defined by the delivery of goods in under 30 minutes from centrally located "dark stores" using e-bikes or scooters. The research provides a comprehensive analysis of how super-fast delivery services operate, examining the roles of various stakeholders, including location strategists, warehouse operators, product partners, suppliers, technology providers, customers, and employees. Using a multiple case study approach, the thesis analyses three European players: Getir (United Kingdom), Gorillas (Germany), and Stash (Switzerland). The methodology combines literature review, market data analysis, and expert interviews with company founders to understand the operational, financial, and competitive dynamics of this emerging retail sector that emerged rapidly during the COVID-19 pandemic.

The research concludes that while q-commerce has solved several consumer problems—eliminating delivery slots, enabling spontaneous purchases, and providing ultra-fast delivery—the business model faces significant profitability challenges. Financial calculations reveal that operational costs, particularly individual deliveries and small basket sizes, make profitability difficult despite generous investor funding exceeding $14 billion globally. The study finds that consolidation is inevitable as companies with similar unique selling points compete intensely in major cities. Established retailers have responded through various strategies: partnerships (REWE with Flink, Tesco with Gorillas), developing their own quick delivery services (Migros' heymigrolino, Valora's avecnow), or focusing on traditional e-commerce solutions. The thesis suggests that for long-term sustainability, q-commerce companies must adapt by bundling deliveries, increasing basket values through premium products, developing private labels, and potentially slowing delivery times to improve efficiency (Reif, 2022).

Further contextualising this phenomenon, a report by Roland Berger (2022) examines the rise of q-commerce and its long-term implications for the retail industry. The research investigates whether q-commerce represents a sustainable business model or merely a cash-burning venture, drawing on a survey of over 6,000 consumers in Germany, France, and the United Kingdom. The study analyses market potential, consumer preferences, and the operational economics of q-commerce, while exploring how omnichannel retailers can integrate this new channel without cannibalising their existing bricks-and-mortar and e-commerce operations. The report evaluates two primary strategies for retailers: partnering with existing q-commerce providers or building proprietary delivery capabilities.

The research concludes that while q-commerce addresses genuine consumer demand for convenience—particularly for spontaneous, urgent, and emotional purchases—the business model faces significant profitability challenges exacerbated by macroeconomic pressures. Marketing costs can consume up to 30 per cent of revenues, and delivery fees rarely cover actual fulfilment expenses. However, the report finds that q-commerce is here to stay and will permanently reshape consumer expectations, forcing convenience stores to upgrade services and traditional e-commerce to accelerate delivery times. The authors project market consolidation, with only the most efficient players surviving, and recommend that retailers prioritise omnichannel integration, personalisation, and operational efficiency. For most multichannel retailers, partnering with established q-commerce platforms offers advantages, including reduced capital expenditure, shared risk, and access to specialised expertise (Roland Berger, 2022).

European Market Consolidation and Player Exits

Several international online last-mile delivery players have been unable to make this business profitable as quickly as commerce is a cash-guzzling business. Getir, Gorillas and Zapp have reduced their capital investment. Thirty companies were competing in the quick commerce business in Europe as of September 2021, but many have been seeking consolidation. GoPuff bought Britain's Fancy and Dija. Turkish start-up Getir acquired London-based Weezy. Send, an instant grocery business in Australia, had to shut down operations when money ran out. DoorDash, a US-based quick commerce player, and Germany's Delivery Hero have faced challenges in sustaining operations. US player GoPuff had to shelve its IPO plans.

After 6 months of service, German grocery provider Delivery Hero decided to exit its own quick commerce service. One of the reasons for this move is that the sector ceased to be attractive to them. The second reason was that Delivery Hero had invested in Gorillas in late 2021, and this may have triggered the decision to move out of quick commerce. Gorillas is a grocery player that also has a presence in the quick commerce market. Turkish player Getir is also on an acquisition spree. US quick commerce player Go Puff had acquired quick commerce companies in Europe. The result of this consolidation is that competition is growing between the large players (Reif, 2022).

ASIAN MARKET INNOVATIONS

Pandamart and HKTV Mall in Hong Kong invested in digital technologies to enable quick commerce. This digital transformation has been driven by social factors (changes in demographics, changes in consumer behaviour), technological factors and economic factors (cost savings, revenue generation) (Huang & Yen, 2021). Pandamart used the same infrastructure and operating system in Hong Kong as Foodpanda. It also benefited from Delivery Hero's technological expertise. Pandamart used Foodpanda's delivery team to rationalise costs (Huang & Yen, 2021).

Pandamart uses data analytics to recommend grocery products to customers even before the latter can make purchase decisions. Additional revenues are generated through affiliate marketing and cross-selling. Personalised recommendations, different payment options, images of products, personalization and convenient reorder facilities have increased the ordering frequency of grocery items on Pandamart. Even though rental costs are higher, Pandamart has set up dark stores closer to customers to reach more customers in a shorter time (Huang & Yen, 2021).

HKTV mall uses robotics in warehouses to manage inventory. Pandamart has a system called "Hurrier" developed by its parent company, Delivery Hero. This software helps in improving delivery operations but also enables efficient forecasting of supply and demand. An increase in orders benefits quick commerce operations due to economies of scale. Pandamart also has a rider scheduling tool to balance supply and demand using big data analytics (Huang & Yen, 2021).

THE INDIAN QUICK COMMERCE MARKET

India's quick commerce market is exploding due to the following reasons:

1. Start-ups are entering the fray with investors providing the funds, leading to stiff competition in the market
2. Rapid urbanisation of societies and busy lifestyles

3. The pace of growth in digital commerce has increased after Covid-19 pandemic
4. Growth in internet penetration, cheaper data and evolution of smartphone technology
5. Increase in the discretionary spending among the middle- and higher-income groups
6. Consumers' need for the convenience of placing orders for groceries from the comfort of their homes and getting them delivered to their doorsteps.
7. As per the McKinsey Report (2022), India has half a billion Internet subscribers. Digital adoption in India has redefined access to information and choices for households.
8. Online grocery services provide the following benefits:
9. Availability of a customised assortment of SKUs
10. Comparison of prices across multiple platforms
11. Convenience of doorstep deliveries of groceries

These choices influence buyer behaviour and their interactions with brands and different channels.

In 2022, the market for online groceries across the globe increased 37% year on year. India's grocery market is worth $620 billion. In India, the growth of grocery retail is polarised between urban and rural India. As per a report by Red Seer Consultancy, kirana stores in India account for 95% of India's grocery market. Supermarkets still account for only 4%. Roughly 2/3rds of India's 1.3 billion people live in rural areas. These statistics point out that the growth of quick commerce has been at the expense of the neighbourhood kirana stores in India.

The overall revenue opportunity for a product or service, given a 100% market share, is the total addressable market. As per Statista, the estimated addressable market size of quick commerce is approximately $49 billion. A 2022 Red Seer Consulting Report claims that the total addressable market for quick commerce in India is $45 billion. Quick commerce has immense potential and is slated to touch $5 billion by 2025 (it was $0.3 billion in 2021). Q-commerce is expected to reach a global market size of around Euro 448 billion by 2030 (Lange, 2020). JioMart from Reliance, Bigbasket from Tata, Amazon Fresh from Amazon, Flipkart Supermart from Walmart, Swiggy Instamart from Swiggy, Blinkit from Zomato, Nature's Basket from Spencer, DMart Ready from DMart, Dunzo, and Zepto are some of the major Q-commerce players in India who promise to deliver necessary groceries within 10 to 30 minutes (now extended to 60 minutes).

Swiggy has a loyalty program called Swiggy One that offers free delivery for both food and groceries. Swiggy's quick commerce business Instamart saw order and gross merchandise value growth of 20 times and 15 times, respectively, in 2021. The entire amount of sales a company earns over a certain time period is known as gross merchandise value (GMV), also known as gross merchandise volume (GMV), and is commonly measured quarterly or yearly. Before incurred expenses are subtracted, GMV is determined. Accrued costs include those for delivery, discounts, refunds, and advertising/marketing charges.

The Indian grocery sector saw investments of around 70% of the global share (excluding mergers and acquisitions) in 2020, with Reliance Retail receiving massive investments. Supply-side disruptions have led to consolidation within the industry. Flipkart acquired Walmart India Wholesale in 2020. It was a reverse acquisition of Walmart's B2B arm by Flipkart to strengthen its D2C capabilities. Reliance acquired subscription based micro delivery platform, Milk Basket. Reliance Retail has enhanced Direct to Customer offerings with Jio Mart and the Kirana ecosystem. D Mart Ready allows for online shopping and home delivery. All the groceries, staples and daily household essentials in a D Mart store can be found in D Mart Ready. D Mart Ready pick-up points are specific locations from where you can collect your online order. Customers can choose a time slot that is convenient to them. The Indian market also has category specialists like Licious focusing on niche categories.

UNDERSTANDING CONSUMER BEHAVIOR

German Consumer Adoption Study

The question of what motivates consumers to adopt these services is addressed in depth by a dissertation from Maria Katharina Groß (2022), which investigates the determinants affecting German consumers' purchase intentions toward on-demand grocery delivery services (ODGDS), such as Gorillas and Flink. Using a mixed-methods approach combining semi-structured expert interviews (n=10) and an online survey (n=186), the research examines drivers and barriers to adoption, as well as demographic characteristics of users and non-users. The study is grounded in a comprehensive literature review of e-grocery markets and consumer behaviour, with a specific focus on the German context, where online grocery sales grew approximately 60% between 2019 and 2020, making it the fastest-growing segment in German e-commerce (Groß, 2022).

The research concludes that convenience factors—particularly time savings, spontaneity, laziness, and flexibility—are the strongest drivers of adoption, followed by peer group influence, positive perception of services, assortment quality, and curiosity. Notably, competitive pricing and physical relief (not carrying bags) were not significant drivers. For non-adopters, the primary barriers include the inability to inspect products on-site, a missing shopping experience, a lack of a perceived use case, and misalignment with personal values (including concerns about poor working conditions). Demographically, women are significantly more likely to be buyers than men, and urban residence strongly predicts adoption, while income and age show no significant influence on purchase intention. The study develops a predictive Probit model demonstrating that having friends who use ODGDS increases the probability of being a buyer by 34%, and being female increases it by 18% (Groß, 2022).

Consumer Ethics and Working Conditions

The critical issue of ethical labour practices is specifically examined in a study by Cagla Tugberk Ariker (2021), which investigates whether consumers punish q-commerce grocery retailers with poor working conditions during the COVID-19 pandemic. Grounded in the Stimulus-Organism-Response (SOR) model, the research uses an experimental design with scenarios based on real events involving two hypothetical retailers: one that reduced couriers' working hours to protect their health, and another that increased hours to 13 per day despite the crisis. The study examines how information about working conditions (stimuli) affects brand reputation (organism) and retail patronage intention (response). Two studies were conducted: the first with equal prices for both retailers, and the second where the retailer with good working conditions set prices 15% higher than the market average (Tugberk Ariker, 2021).

The findings reveal that consumers evaluate retailers with good working conditions as having significantly higher brand reputation and sustainable image, and express greater retail patronage intention toward them. These results hold even when the ethical retailer charges higher prices, suggesting that consumers are willing to pay a premium for fair labour practices during a crisis. The study concludes that poor working conditions lead to customer loss, and that investing in employee well-being and communicating these efforts can enhance brand reputation and customer loyalty—critical factors for the survival and growth of emerging q-commerce retailers.

Consumer Behaviour in India: IIM Bangalore Survey

IIM-Bangalore commissioned a survey to gauge customer feedback about Quick commerce and to know what their expectations were.

Customers are enthused by the idea of fast delivery, but delivery charges levied by quick commerce players had an influence on their decision-making to buy. A survey conducted in Bangalore to know consumers' responses to Quick Commerce revealed that 58% percent of consumers relied on Swiggy Instamart, 17% on Blink It, 14% on Zepto and 11% on Big Basket. Users expected the Q-commerce process to be smooth, quick, logical and secure. They also desired real-time progress updates and precise tracking information.

Pain points faced by Q-commerce users (a study by IIM Bangalore):

1. The website or mobile app wasn't intuitive. This increased the time for placing the order
2. Inability to place the order due to the name of the item not being known in English
3. Inability to use past grocery orders for placing repeat orders
4. Delivery window times were not convenient
5. No options for group purchasing
6. Delivery and refund notifications took time
7. No provision to speak to someone on the phone in case the customer was not tech-savvy

These pain points are preventing quick commerce users from having a holistic and high-integrity experience.

Even school students and college-going teenagers use quick commerce for ordering items like dairy products and chips. Most of these customers don't mind if the delivery time increases to 15 minutes from 10 minutes. Quick commerce is being opted for by customers to avoid long queues at the supermarket. Customers use different grocery apps based on the prices and offers prevailing at that particular moment. This is why loyalty is a challenge in app-based quick commerce grocery delivery. Quick commerce is beneficial when there are unexpected guests at home, and some snacks have to be ordered quickly.

The truth is that consumers rely on and relish instant gratification as it saves them time. This later on becomes an addictive habit, which is, in a way, good for the future of the online grocery delivery business. Quick commerce has transformed customer buying behaviour, with customers seeking a comfort-driven buying experience.

Pan-India Survey Results: Local Circles and McKinsey

A survey was conducted by Local Circles in India:

1. A majority of Indian consumers buying groceries online are not in a rush. They don't mind waiting for a few hours or even a day, but are reluctant to pay delivery charges.
2. Only 3% of household consumers are willing to pay a delivery fee and get groceries delivered within half an hour.
3. Over the past two years, India saw an emergence of quick commerce platforms such as Swiggy Instamart, Blinkit, Dunzo, Big Basket Now and Zepto, which built their fortunes by delivering groceries to customers within an average 30-minute time frame. Yet, the quick commerce delivery model remains a work in progress.

Responses to some of the questions:

What matters to you the most when ordering groceries online via grocery platforms/ sites/ apps?

- 30% value for money
- 37% quality of products
- 17% selection/ variety of products available
- 11% Ease of return/ refund and customer service
- 5% Time taken for delivery
- *When you place grocery orders online, what kind of delivery model do you prefer for the majority of the orders?*
- 3% Within 30 minutes, and a delivery fee is charged
- 11% Within 30 minutes to 3 hours, and a small delivery fee is charged
- 33% Within 3-24 hours, and no delivery fee charged above a certain order value
- 28% Delivery slot as per my convenience
- 25% Within 24-72 hours, and no delivery fee charged

A pan-India survey was conducted by McKinsey in November 2021 to examine shifts in consumer behaviour. The results of the survey were:

1. Consumers seek quality and value
2. 44% consumers consider value as a key factor in buying groceries online
3. 33% consumers look for the best trade-off between price and quality
4. Balance (trade-off) between price and quality is important
5. Range of organic and sustainable products influences millennial consumers
6. Convenience, freshness of the produce, best promotions and offers are other factors that encourage consumers to buy groceries online.

50% respondents from Gen X attributed value as the reason for switching to a new online grocery platform. 74% respondents (Gen Z and millennials) believe in splurging to treat themselves.

Reasons for trying a new brand:

- **Value** – better prices/promotions/ better delivery/ lower delivery costs/ large pack sizes
- **Organic** – Natural/ Quality
- **Purpose driven** – Sustainable/better for environment; support local businesses; shares personal values; treats employees well.

37% consumers have started using private labels post Covid, and this trend persists among Gen X, Gen Y and Gen Z. Omni-channel has brought brands and consumers closer to one another.
Customer satisfaction increased when products were always in stock. More than 60% consumers use omnichannel options to purchase groceries. Millennials are most influenced by social media promotions for purchases across all categories. Post pandemic, 50% of respondents wish to spend more on organic food products, while 70% respondents purchase groceries online with the intention to eat healthy.

The healthy products that consumers are opting for are:

- Organic/ bio
- Low sugar
- High protein
- Low fat
- Natural ingredients

LESSONS FROM EARLY ONLINE GROCERY FAILURES: THE WEBVAN STORY

Excerpts from a 2002 report in the New York Times:

After Webvan wound up in 2001, bigger grocery chains began scouting ways to enter the online space, undaunted by the spectacular failure of the Internet-only grocers. But their actions were laced with caution. Ahold and Safeway were the grocers who were exploring options to sell groceries online as part of their marketing and sales agenda.

Webvan built high-tech storage warehouses and delivery systems in 26 locations. Heavy investment in warehouses, marketing and transportation fleets proved to be Webvan's nemesis. Traditional stores are contemplating the use of their own stores as warehouses.

Safeway's online system works like this. Customers register on the website with their personal information, including details of frequent-shopper cards. Items can be searched in the search box. Customers with frequent shopper cards are shown a list of items that they recently bought so that their selection speed can be increased.
Store prices were not different from those offered for online purchases. After receiving an order, Safeway transmits the order to a customer's nearby store. Pickers fill their shopping carts based on customer orders. A computer print-out tells the picker the exact location of the items on the order. The items are delivered in a van to the buyer's home within a time window of two hours. Delivery charges levied by Safeway amounted to $10.
Safeway had 50% ownership in Grocery Works that operated the e-commerce system on Safeway's behalf. The cost of maintaining the website was huge, and having a phone-based customer service team added to the cost. Delivery staff further added to the overheads.
Tesco, the British chain, pioneered the use of grocery stores as online distribution centres. Tesco spent $15 to $20 to process each order; at

least 50% costs are recovered from customers through the fees levied. Online orders were filled from the backroom—there was no need to stock shelves.

Peapod (founded in 1989) worked with supermarkets like Jewel, Kroger and Safeway to deliver food. Ahold's online unit, Peapod, was successful in the online grocery business in only one market out of the six markets in which it operated. In some markets, Peapod used Ahold stores like Stop and Shop as distribution centres. In others, warehouses (with an area covering 90000 square feet) were used by Peapod.

Back then (2002), analysts felt that online grocery shopping would be more successful in metropolitan areas with customers who had an income that could support purchasing groceries online. Though broadcast and print advertising were used to advertise the services, word of mouth and delivery trucks on the road were considered powerful promotional tools. Service was truly a differentiator that could affect the prospects of the online grocery delivery service.

Instacart (founded in 2012) had a similar model to Peapod, wherein it partnered with grocery stores. The operation was flexible and relied on independent contractors to pick products from supermarkets and deliver them to customers' homes. This was a cost-effective method compared to the model used by pure play grocery retailers.

The failure of early online grocery channels can be attributed to several interrelated factors. The grocery sector is characterised by high sales volumes but notoriously low margins, leaving little room for error or inefficiency. Compounding this challenge, the return on investment for technology and infrastructure was slow to materialise, while many ventures pursued an unsustainable pace of expansion based on erroneous profitability projections. Unlike traditional retail, where customers perform their own product selection, online retailers have to shoulder most of the operational work—including picking and packing individual orders—which adds significant labour costs. Perhaps most critically, customers proved unwilling to pay delivery and handling fees, which had a direct and adverse impact on profitability, making it impossible for these early ventures to cover their operating costs.

In January 2026, Amazon announced it would close all 16 Amazon Go stores after an eight-year experiment, citing an inability to create a truly distinctive customer experience with the right economic model needed for large-scale expansion. The stores, which relied on the "Just Walk Out" technology featuring hundreds of ceiling-mounted cameras and sensors, faced significant profitability challenges, with early technology costs reaching approximately $400,000 per location and ongoing operational expenses that made the model unsustainable. Rather than giving customers a compelling reason to visit, many shoppers viewed Go stores as novelties rather than destinations, and the fuel-free convenience store format struggled to generate sufficient traffic in urban areas. Additionally, the system's reliance on over 1,000 remote workers in India to manually review purchase data raised questions about the technology's true automation capabilities. However, Amazon has pivoted successfully by licensing the Just Walk Out technology to over 360 third-party locations across five countries, including hospitals, sports stadiums, and airports, where speed—not store loyalty—is the critical factor for success (D'Innocenzio, 2026).

WAREHOUSE OPERATIONS AND OPERATIONAL CHALLENGES

A warehouse operation primarily involves the following tasks:

1. Ensure adequate stock of products (different varieties, different SKUs)
2. Understand the demand trends to fill and replenish the stock
3. Store products in the designated areas
4. Choose and package the items as per the order
5. Final shipment and delivery of the order to customers

The speed with which activities are carried out in the warehouse determines the efficiency of the quick commerce service. For instance, from the moment the order is placed, the items must be sourced, packed and delivered within 5 minutes to the delivery staff so that in the next 10 minutes the delivery can be made. However, we need to understand that this can cause immense stress to the operations, particularly when there are many orders to be serviced at the same time. Services have always faced this challenge of supply-demand mismatch. Grocery services are no exception. On occasions, there could be fewer orders due to subdued demand, and there could be occasions when demand can outstrip supply. This puts into question the need for committing to a delivery time of 10-15 minutes. Additionally, traffic congestion in metropolitan areas is seldom under the control of any delivery staff. Even if deliveries are made within a shorter radius, there could be situations of unexpected delays. While innovative ways can be explored to ensure that the ordered items are sourced, sorted and packed in the minimum time possible, delivery timelines cannot always be under the control of the grocery supplier.

CHALLENGES FACED BY INDIAN QUICK COMMERCE PLAYERS

Reliance-backed delivery app Dunzo launched Dunzo Daily in August 2022. This was a 19-minute delivery service in Bangalore. There were plans to expand to 20 cities. The company also received a cash infusion of $240 million from Reliance in January 2022. Dunzo Daily lost Rs 230 on each order daily, with losses increasing to Rs 464 crore during the first half of 2022. Dunzo Daily, as of December 2022, had shut down a number of dark stores across NCR and Hyderabad.

Dunzo realised that mapping delivery and pick up is a completely different ballgame than managing inventory in dark stores while also adhering to 10-minute delivery timelines. Dunzo is staring at a slower growth rate for its quick commerce business. In the absence of funding, Dunzo is now focusing on reducing costs. Dunzo also had plans to use robotics in its warehouses to reduce the time taken for processing orders to 30 seconds. But these plans have come unstuck.

Flipkart entered the quick-commerce segment in July 2020 with **Flipkart Quick**, offering 90-minute grocery delivery. To compete with emerging ultra-fast delivery startups, the company reduced delivery time to 45 minutes in 2022. However, the model struggled with profitability and operational challenges, leading Flipkart to consolidate Flipkart Quick with its next-day grocery service, Flipkart supermarket. Instead of expanding the original model, Flipkart later pivoted toward a new strategy called **Flipkart Minutes**, focusing on ultra-fast deliveries through dark stores in major metropolitan areas.

The quick-commerce sector also saw early exits from some players. Ride-hailing company **Ola** launched **Ola Dash** in December 2021 as a 10-minute grocery delivery service with ambitious plans to build 500 dark stores across 20 Indian cities. However, the business faced weak demand and high operating costs, forcing the company to shut down dark stores and discontinue the service by April 2022. The closure signalled the financial pressures and uncertain demand that characterised the early phase of India's quick-commerce market.

Other players experienced temporary slowdowns but later adapted their strategies. **Swiggy**'s quick-commerce arm **Instamart** initially saw slowing growth and shut down parts of its **Supr Daily** milk-delivery service in several cities. Despite these setbacks, Instamart gradually expanded its operations by increasing the number of dark stores and extending services to additional cities. Over time, it became one of the major players in India's quick-commerce ecosystem, though it continues to compete closely with other large platforms.

The biggest transformation occurred with **Blinkit**, formerly known as **Grofers**, which rebranded to emphasise 10-minute grocery delivery. The company initially struggled with expansion and funding challenges, but was eventually acquired by **Zomato** in 2022. After the acquisition, Blinkit expanded aggressively, increasing the number of dark stores and broadening its product range beyond groceries to include electronics, toys, and everyday essentials. This strategy helped it become one of the leading quick-commerce platforms in India.

Meanwhile, startup **Zepto**, which initially raised significant funding in 2022, slowed its expansion briefly before accelerating growth in later years. The company raised additional capital and rapidly scaled its network of dark stores, emerging as a strong competitor in the market. Overall, while early developments suggested that quick commerce might struggle due to high costs and logistical challenges, the sector eventually moved toward consolidation and growth, with companies such as Blinkit, Zepto, and Instamart dominating India's rapidly expanding quick-commerce industry.

Dunzo, once a prominent hyperlocal delivery startup in India, struggled to sustain its business after entering the quick-commerce segment with **Dunzo Daily**. Competing with well-funded rivals such as **Blinkit**, **Zepto**, and **Swiggy**'s Instamart significantly increased operational costs, particularly due to investments in dark stores and rapid delivery logistics. Although the company had raised substantial funding, including about $200 million from **Reliance Retail**, it faced mounting losses, vendor payment issues, layoffs, and the shutdown of several dark stores across major cities. Unable to secure additional funding or stabilise operations, Dunzo's app and website went offline in January 2025, effectively marking the shutdown of the company.

KEY LEARNINGS FROM THE INDIAN MARKET

Online grocery retail faces several operational challenges, including updating inventory and

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stocks on an hourly basis, managing customer frustration when items are out of stock, stocking an adequate variety of goods, and improving product discovery and navigation. The UK is a leading market for online grocery sales. In Japan, convenience and service makes large number of Japanese people buy groceries online. AI, widgets, ability to make shopping lists, vouchers, price matching—value-added features in online grocery shopping. Services like click and collect, kerbside pickup are other services. Automation and robotics in picking and packing are another positive development.

Supermarkets entering online have a greater chance of success (hybrid) (bricks and clicks model) (economies of scale, good infrastructure, logistics networks, stores can double up as warehouses/ distribution centres for online orders). Those grocery business models that are successful and can sustain for the long term are profitable and use the scale and infrastructure of mainstream grocers. Avoiding high costs associated with warehousing and lower margins due to low volume operations are some of the challenges.

Stand-alone quick commerce players may find it hard to sustain in the market unless they have access to investments, and they can focus on scaling up without worrying about profitability. But if the investment tap dries up, then it may be challenging to scale the business without making profits. If the quick commerce business is a separate vertical of an online grocery service provider or if it is part of related diversification efforts of food delivery companies, then there is a greater chance of sustaining in the market.

Players with existing infrastructure and strong backing from the parent company can manage to sustain in the market. Only players with solid financial backing and strong business fundamentals can sustain the pressure of ultra-quick deliveries.

Big Basket launched BB Now to offer deliveries of over 3000 products in 10-20 minutes. Their collective experience in the grocery market over the last decade will give them a competitive edge.

Smaller players would find it challenging to build hyperlocal supply chains. Therefore, consolidation of players in the market will continue to happen with buyouts of regional players by larger brands.

Some of the players, like Zomato (online food delivery service provider), have started looking at consolidation. Zomato acquired Blink It. Swiggy launched its quick commerce business called Swiggy Instamart as part of its diversification strategy. Swiggy's Instamart leads the quick commerce pack in India. It will benefit from the synergies with its core food business and existing delivery fleet.

In a diverse market like India, it is worthwhile to ponder if customers would prefer a quick delivery with a limited product assortment or will customers opt for better product assortments, free delivery and attractive discounts/offers with longer delivery times.

Understanding the unique characteristics of each demographic in a complex and diverse market in India will need massive investment in resources, particularly the ability to derive insights from data and the use of this data for decision-making. The success of quick commerce grocery retail is dependent, to a great degree, on the right pricing. Quick commerce is also location-dependent, and location determines unit economics. Picking up the right locations with a high order density is crucial. Investments are needed by quick commerce grocery players in technology, inventory and setting up of dark stores in locations that have high population density. Bringing dark stores closer to customers can save money.

FUTURE OUTLOOK AND GROWTH PROJECTIONS

It is rather interesting to note that the growth of quick commerce is a result of consumers' pain points with regard to the uncertainty of delivery for delivery windows like same-day delivery, two-day delivery, etc. Since the delivery time for quick commerce is defined, convenience assumes a new meaning for shoppers. The predilection customers have towards instant delivery compared to next-day delivery is what will drive the business.

Strong habit formation has characterised grocery purchases, particularly in the aftermath of the Covid-19 pandemic. Kirana purchases are being converted to purchases on quick commerce platforms due to the benefit of receiving quick deliveries.

The future of quick commerce appears promising, considering its adoption in markets like Bengaluru, Chennai and New Delhi. Average order values in quick commerce are Rs 350, whereas for regular online grocery delivery, the ticket size is Rs 1050. Yet, the shares of quick commerce in the total grocery pie are steadily rising. However, quick commerce players have to be conservative and avoid or minimise cash burn. With experts predicting that quick commerce will grow to $70 billion in the next three years, making customers repeatedly rely on quick commerce instead of using it only for emergency purchases will be a challenge.

Onboarding of neighbourhood shops (kirana stores) by quick commerce players will mark the next phase of growth in the quick commerce sector. This will create a win-win situation. Local grocery stores have always relied on customer walk-ins, but with a digital presence, they can join hands with quick commerce players. This will need local stores to be educated about the benefits of doing so. In India, ONDC (Open Network for Digital Commerce) is a live shopping app that aims to bring local vendors to the platform. This can open up additional opportunities for the local stores, although this can be a competitive threat to the quick commerce players. With the ONDC initiative, buyers across platforms can choose to buy from neighbourhood stores and get quick delivery.

Swiggy Instamart, Dunzo and Zepto are delivering late into the night till 2 am or 3 am. These companies are fulfilling these orders in an attempt to collect data. Data can enable these platforms to plan stocks and inventories. South Korean firm Coupang has nine million customers. It has a profitable grocery delivery service that delivers groceries on the same day. The basket sizes are also larger.

The future of quick commerce relies on consumer willingness to pay for delivery, along with the exploration of other revenue sources by the businesses. Market experts do believe that the hype of 10-minute delivery is unnecessary. Survey results also point to the fact that customers do not mind a delivery window of 60 minutes.

Convenience, flexibility and fast delivery characterise the quick commerce delivery that does have great potential for the future. If complexities can be managed through simplification and creative thinking, this business can lead to a sustainable competitive advantage for the business.

Expansion of delivery times presents an opportunity to bundle orders from different customers and improve profitability. But the learning curve in this sector is expected to improve in the future. As consolidation efforts get strengthened, the market will witness a few players who will hold a greater sway over the quick commerce grocery delivery.

CONCLUSION

The key drivers that have propelled online grocery purchases by consumers include an evolving customer mindset, the profound impact of COVID-19, high rates of internet penetration in markets like India, the emergence of supply chain models enabling daily doorstep delivery within hours, customers' growing comfort with using apps, the demand for fresh and quality produce, and the expectation of on-time home delivery.

The popularity of online grocery shopping in the post-COVID era can be attributed to several factors: customers can repeat a previous order with a single click, transactions are secure, and perhaps most importantly, there is the undeniable convenience of ordering groceries from the comfort of one's home and having the items delivered directly to the doorstep.

Quick commerce platforms must meet several operational table stakes to succeed. Dark stores need to be located close to customers so that products can be picked, packed, and delivered quickly, while the use of electric two-wheelers can help reduce fuel costs and improve delivery efficiency. Companies must also carefully select and frequently update their product assortment and SKUs based on local purchasing trends. In addition, well-trained dark store staff and delivery personnel with a strong customer focus are essential to ensure high service quality. Along with these operational requirements, general competitive factors such as competitive pricing, product availability, reasonable delivery fees, fast delivery, good product quality, and an excellent customer experience are critical. Ultimately, only the most efficient quick-commerce players will survive market consolidation by maintaining low costs while achieving profitability.

Building upon these fundamental shifts in consumer behaviour, the evidence presented across global markets, consumer studies, and historical patterns suggests that quick commerce will sustain—but in a fundamentally transformed shape. The model is evolving from the unsustainable 10-minute delivery promise toward more viable 30-60 minute delivery windows that allow for order bundling and improved unit economics.

The future belongs to players with strong parent company backing, existing infrastructure synergies, and the ability to integrate with traditional retail ecosystems—whether through partnerships with established supermarkets in Europe or kirana store networks in India. Consolidation is inevitable and already underway, with larger players acquiring regional competitors.

Consumer behaviour ultimately holds the key. While instant gratification drives initial adoption, long-term sustainability depends on converting emergency purchases into habitual use. The data reveals that customers prioritise value, quality, and product assortment over extreme speed. Those quick commerce players that can balance the convenience of fast delivery with sustainable economics, ethical labour practices, and genuine customer value will be the ones that survive the market consolidation and thrive in the years ahead.

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