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FROM CASH TO CLICKS: EXPLORING THE ROLE OF AI IN SHAPING CONSUMER SPENDING PATTERNS THROUGH DIGITAL PAYMENT

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ABSTRACT

In recent years, the rapid expansion of digital payment methods has profoundly altered the landscape of consumer transactions. Developments like peer-to-peer transfer apps, mobile wallets, and contactless payments have not only changed how consumers spend but also disrupted conventional financial practices. It is essential for businesses, lawmakers, and financial institutions to grasp how the growing use of digital payments and associated technologies is redefining consumer purchasing patterns. Digital payment systems provide an unmatched level of convenience, enabling consumers to conduct transactions quickly and easily from almost anywhere. This ease of use has resulted in observable shifts in consumer behavior, such as more frequent transactions and a higher likelihood of impulse buying. Additionally, the incorporation of data analytics and personalized marketing tactics into digital payment methods has further shaped consumer spending. This research aims to explore the effects of digital payment systems on consumer spending behavior. By examining how these systems affect purchasing decisions, spending habits, and overall financial management, the study hopes to offer valuable insights for businesses, financial institutions, and policymakers.

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Key words: Digital payment, Apps, purchase

INTRODUCTION

A digital payment system is a financial technology that allows individuals and businesses to transfer money electronically without the need of physical cash. Digital payment is processed instantly reducing the time required for the money transfers and purchases. It leaves a traceable mark by promoting accountability and reducing fraudulent activity. The arrival digital payment system has transformed into the way consumers transact, and influencing their spending behavior significantly. The rapid evolution of technology has transformed the way of consumers are engage in the financial transactions with the digital payment system has emerged with all the people like a game-changer, giving more convenience at anywhere in any time, speed and accessibility. These systems include methods like mobile wallets, online payment platforms, contactless cards, and most important QR code-based payments.

VARIOUS TYPES OF DIGITAL PAYMENT SYSTEMS IN INDIA

Every online transaction is meticulously governed, managed, and controlled by the central authority, the reserve bank of India (RBI). In 2013, the national payments corporation of India (NPCI) was established, with encouragement from the RBI, to create a seamless, unified platform for online retail payments. The diverse range of digital payment systems regulated by the RBI includes: Banking cards, pre-paid cards, micro-ATMs, point-of-sale (POS) or point-of-purchase terminals, online banking, mobile banking, mobile wallets, and more. The array of innovative digital payment solutions overseen by NPCI includes; Rupay, IMPS, USSD, UPI, Bharat QR code, BHIM, AEPS, BBPS, and contactless payment options like NFC, RFID tags, and others.

MODES OF DIGITAL PAYMENT SYSTEM

Mobile banking **Unified payment interface (UPI)**

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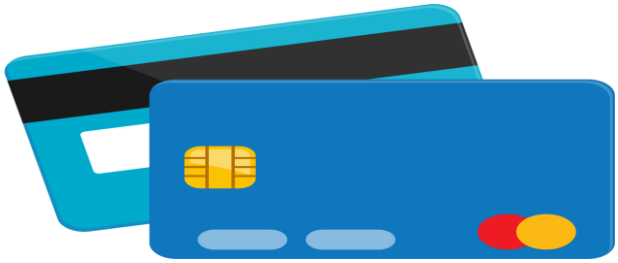
Debit and Credit Cards



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Aadhaar Enabled payment system

QR Code payment

ROLE OF AI IN SHAPING CONSUMER SPENDING PATTERNS THROUGH DIGITAL PAYMENT

In recent years, artificial intelligence (AI) has revolutionized various aspects of the financial landscape, with digital payments being a key area of transformation. The integration of AI in digital payment systems has not only enhanced efficiency but also significantly influenced consumer spending patterns. By analyzing large sets of data in real time, AI-powered platforms provide businesses with insights into consumer behavior, preferences, and purchasing habits. This allows companies to tailor offers and discounts, encouraging more frequent or higher-value transactions.

AI's ability to predict consumer preferences and offer personalized experiences plays a critical role in shaping spending patterns. For instance, recommendation engines powered by AI use algorithms to suggest products based on previous purchases, search history, and real-time trends. These targeted suggestions can drive impulse buying and increase the overall spending of consumers, especially in online marketplaces where decision-making is often quicker. Moreover, AI-driven digital payment systems streamline the purchasing process by offering seamless payment options such as biometric authentication, voice recognition, and chatbot-assisted transactions. These innovations reduce friction in the payment process, making it easier and faster for consumers to complete purchases. This convenience can lead to an increase in spending, as consumers are less likely to abandon their carts due to cumbersome payment processes.

OBJECTIVES OF THE STUDY

- ✓ To identify consumer preference over digital payment system.
- ✓ To examine how AI-driven digital payment platforms influence consumer spending behavior.

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- ✓ To examine the relationship between the demographic profile and the factors influencing consumers' choice of a digital payment app.

RESEARCH METHODOLOGY

- Research design - Descriptive research design
- Sample design – Simple random sampling technique
- Sample Size – 262 Respondents
- Data Collection
    1. Primary data – Structured questionnaire
    2. Secondary data – Journals and Websites

DATA AND SAMPLE COLLECTION

The data collection process for the research was done through the collection of primary data (questionnaire) secondary data (journals and websites). The required data for the work was collected through a structure questionnaire which was circulated to the social media user in Chennai. The data collected was analysed and explained the result.

TOOLS OF ANALYSIS

Analytical techniques are used to obtain the findings and conclusion information in logical sequence from the data collected. The techniques that are used for the study of percentage analysis, Kruskal Wallis H test and Chi square test.

LIMITATIONS OF THE STUDY

- ➢ Time is the important limitation. Due to time constraints only, limited population is taken for the study.
- ➢ The study might focus on a specific region or population, limiting its applicability to other areas.
- ➢ Only digital payment users were considered for the study.
- ➢ A small or non-representative sample size may not capture the broader consumer behavior trends across different demographic groups.

REVIEW OF LITERATURE

- **Chandan Nandihal S. Dr. Atul Loomba (2023)** conducted research on "A Study on consumer behaviour towards Digital payments in the City of Bangalore". The objectives wasto find and analyse the purpose for customers make use of digital payment and problems faces by consumers while digital payments. The data collected is through questionnaire and sampling method is used. The data is conducted with 100 respondents. This study reveals

that lot of people about 40 to 50% of the population are using smart phones and not using this and do not want to use this because of lack of awareness.

- **Sudiksha Shree &Bhanu Pratap & Rajas Saroy &Sarat Dhal (2021)** The study conducted on the topic "digital payments and consumer Experience in India". India's digital payment system is a promising success story in making. At the same time, the data also points towards on increasing usage of cash. The study finds that the degree to which past-experience with online fraud deters usage of digital payments varies with the purpose of the transaction.
- **Faridha R (2018)** conducted the study on "A study on consumer behavior towards digital payments with reference to Madurai city". Digital payment is way of payment which is made through digital modes. The both payer payee use digital modes send & receive money easily. Consumer refers to individual customers use buy and disposal ideas, goods and services to satisfy their needs and wants. The objective of this is identifying the problem faced by consumer in the adoption of digital payment. The sampling size of 100 respondents was selected. They conclude that "faceless. Paperless, cashless" is one of the professed roles of digital India.
- **Tobias Truetsch (2014)** conducted on the topic "The impact of contactless payment spending ". This study estimates the effect of contactless payment on the spending ratio in terms of transactions for different transactions types at the point -of -sale. The study results provide evidence that faster and more convenient payment products that can be deployed at the POS such as contactless payment induce individuals to undertake more frequency transactions.

DATA ANALYSIS - PERCENTAGE ANALYSIS

DEMOGRAPHIC PROFILE

Demographic	Majority	%
Age	18-20	**39.70%**
Gender	Male	**52.70%**
Education	UG	**45.80%**
Occupation	Student	**30.50%**
Income	Below Rs. 2,00,000	**64%**

From the above table, the following results were obtained:

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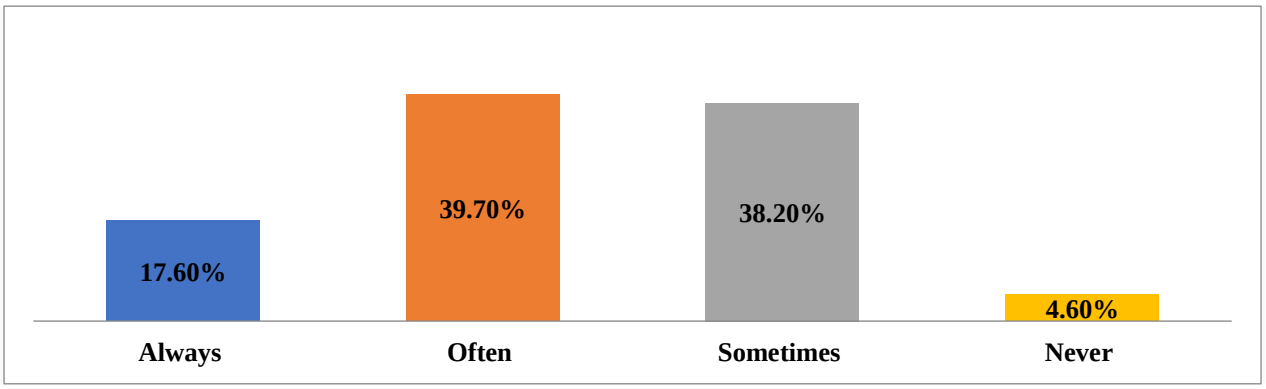
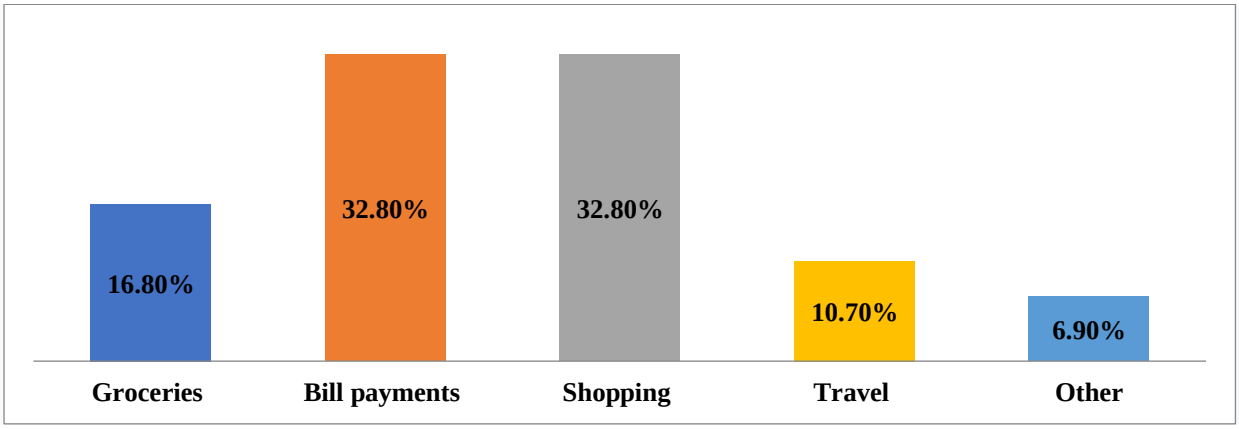
- 52.70% of the respondents were male.
- 39.70% of the respondents belong to the age group of 18-20 years.
- 45.80% of the respondents are undergraduates.
- 30.50% of the respondents were students.
- 64.50% of the respondents earn less than Rs. 2,00,000 per annum.

PREVALENCE OF DIGITAL PAYMENT USAGE



From the above chart, it is inferred that 39.7% of the respondents said that they will always use digital payment system for daily transactions, 38.2% respondents said that they use only often in digital transactions, 17.6% of the respondents said that only sometimes they use the digital transactions, 4.6% of the respondents said that they will never use the digital payment system for daily transactions.

PRIMARY EXPENSES COVERED THROUGH DIGITAL PAYMENT SYSTEMS



From the above chart, it is inferred that 32.8% each of the respondents said that they will use digital payment mostly in shopping and bill payments systems, 16.8% of the respondents said that they spend for grocery expenses, 10.7% of the respondents said that they spend for travel expenses and

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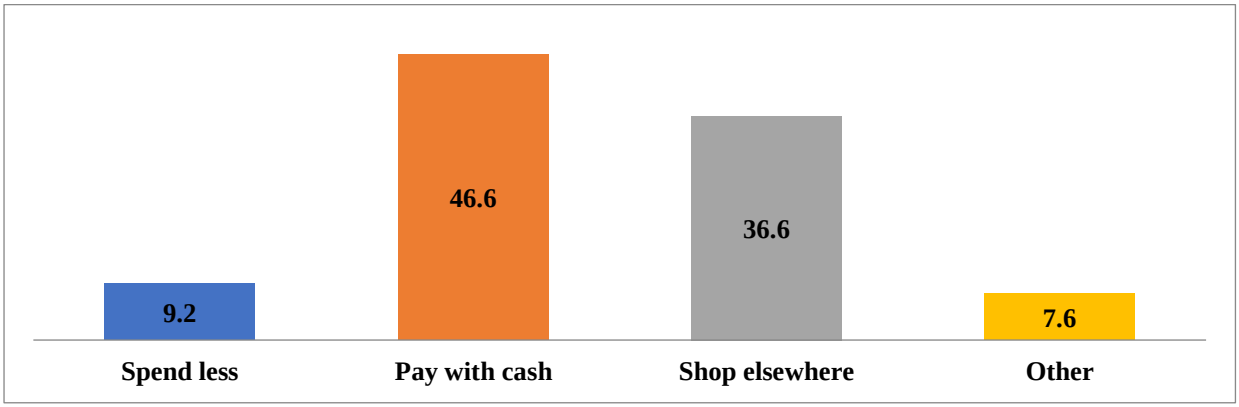
6.9% of the respondents said that other than this they use some other expenses in digital payment system.

SHOPPING EXPERIENCE IN THE ABSENCE OF DIGITAL PAYMENT OPTIONS



46.6% of the respondents said that they Pay With Cash on absence of digital payment, 36.6% of the respondents said that they Shop Elsewhere if absence of digital payment, 9.2% of the respondents said that they Spend less on absence of digital payment and 7.6% of the respondents said that Other on absence of digital payment.

KRUSKAL WALLIS H TEST

H_0: There is no significant difference in perceptions of AI's role in shaping consumer spending patterns through digital payment across different genders.

H_1: There is a significant difference in perceptions of AI's role in shaping consumer spending patterns through digital payment across different genders.

Ranks						
	Gender	**N**	**Mean Rank**	**Chi-Square**	**df**	**Asymp. Sig.**
AI-based personalized product recommendations have influenced my purchasing decisions on digital platforms.	Male	138	65.83	0.004	1.000	0.951
	Female	124	66.19			
	Total	**262**				
I am more likely to make impulse purchases due to AI-driven suggestions or advertisements.	Male	138	68.13	0.546	1.000	0.460
	Female	124	63.63			
	Total	**262**				

AI-powered digital payment systems make online transactions more convenient for me.	Male	138	64.92	0.142	1.000	0.706
	Female	124	67.2			
	Total	**262**				
I feel more confident using digital payment platforms because of AI-driven security features (e.g., fraud detection, biometric authentication).	Male	138	63.08	0.923	1.000	0.337
	Female	124	69.25			
	Total	**262**				
AI-enabled personalized discounts and offers have encouraged me to spend more.	Male	138	61.04	0.632	1.000	0.105
	Female	124	71.52			
	Total	**262**				
The use of AI in digital payment systems increases the trust I have in the platform.	Male	138	63.13	0.887	1.000	0.346
	Female	124	69.19			
	Total	**262**				
AI-driven recommendations improve my shopping experience on digital platforms.	Male	138	60.73	3.085	1.000	0.079
	Female	124	71.86			
	Total	**262**				
AI in digital payments simplifies the payment process, making it faster and easier for me to complete transactions.	Male	138	63.37	0.758	1.000	0.384
	Female	124	68.93			
	Total	**262**				
I believe that AI-driven personalized experiences on digital platforms lead to excessive spending	Male	138	66.66	0.047	1.000	0.828
	Female	124	65.27			
	Total	**262**				
AI's ability to predict my preferences and suggest relevant products makes me feel more satisfied with my shopping choices.	Male	138	64.74	0.173	1.000	0.678
	Female	124	67.4			
	Total	**262**				

Since the asymptotic values are more than the table value 0.05, H_0 is accepted and H_1 is rejected. Hence, there is no significant difference in perceptions of AI's role in shaping consumer spending patterns through digital payment across different genders.

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CHI SQUARE TEST

H_0 : There is no significant relationship between the demographic profile and the factors influencing consumers' choice of a digital payment app.

H_1 : There is a significant relationship between the demographic profile and the factors influencing consumers' choice of a digital payment app.

Gender and Key Factors Shaping Consumers' Choice of Digital Payment Apps

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.681[a]	4	**.046**
Likelihood Ratio	9.905	4	.042
Linear-by-Linear Association	1.382	1	.240
N of Valid Cases	262		

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is 3.79.

Age and Key Factors Shaping Consumers' Choice of Digital Payment Apps

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.381[a]	12	**.221**
Likelihood Ratio	16.092	12	.187
Linear-by-Linear Association	3.511	1	.061
N of Valid Cases	262		

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .61.

Education and Key Factors Shaping Consumers' Choice of Digital Payment Apps

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.025[a]	12	**.701**
Likelihood Ratio	9.304	12	.677
Linear-by-Linear Association	1.581	1	.209
N of Valid Cases	262		

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a. 12 cells (60.0%) have expected count less than 5. The minimum expected count is .55.

Occupation and Key Factors Shaping Consumers' Choice of Digital Payment Apps

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	19.633[a]	16	**.237**
Likelihood Ratio	22.128	16	.139
Linear-by-Linear Association	.342	1	.559
N of Valid Cases	262		

a. 15 cells (60.0%) have expected count less than 5. The minimum expected count is .73.

Monthly income and Key Factors Shaping Consumers' Choice of Digital Payment Apps

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.802[a]	8	**.359**
Likelihood Ratio	8.915	8	.350
Linear-by-Linear Association	.191	1	.662
N of Valid Cases	262		

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is 1.53.

INFERENCES:

- **Since the asymptotic value (0.046) is less than the table value 0.05, $H_{0\ is}$ rejected and *H_1 is accepted*. Hence, there is a significant relationship between the gender and the factors influencing consumers' choice of a digital payment app.**
- **Since the asymptotic values are more than the table value 0.05, $H_{0\ is}$ accepted and $H_{1\ is}$ rejected. Hence, there is no significant association between the age group, educational qualification, occupation, annual income and the factors influencing consumers' choice of a digital payment app.**

SUGGESTIONS

- Digital payment platforms should continue to advance their AI- powered fraud detection systems.
- To help consumers manage their spending, payment platforms should offer AI- based budgeting and financial management tools.
- AI-can be used to analyse user behaviour on digital payment apps and recommend design improvements for a more intuitive user- experience.
- Transparency in how AI is used for data collection and decision-making in digital payment platforms is crucial to building and maintaining consumer trust.

CONCLUSION

The study highlights the transformative role in AI in shaping consumer spending patterns through digital payments. AI-driven tools such as personalized recommendations, fraud detections, and financial insights have significantly influenced consumer behaviour, making digital payments more convenient, secure, and appealing. The findings suggest that AI will continue to play a key role in the evolution of digital payment platforms, driving greater adoption and reshaping how consumers manage and spend their money.

However, the increasing reliance on AI also presents challenges, particularly in the areas of data privacy and ethical usage. Businesses must balance innovation with responsible AI practices to maintain consumer trust. Going forward, the integration of AI into digital payment systems will likely evolve further, providing even more sophisticated ways to enhance user experiences, ensure security, and influence spending patterns.

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