Digital Payment System: Impact on Consumer Purchasing Behavior

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Abstract

This study explores the impact of digital payment systems on consumer purchasing behavior in India, where traditional cash transactions remain predominant despite the growing prevalence of electronic payment methods. As digital payments offer a convenient and secure alternative, understanding their influence on consumer habits is essential for businesses and policymakers alike. The research aims to assess consumer awareness and usage of digital payment systems, evaluate attitudes toward these methods, and analyze their significance in traditional commerce.
The study addresses existing challenges, particularly the knowledge gap and security concerns surrounding digital payments. By conducting surveys, the research investigates the relationship between education, income levels, and the frequency of digital payment usage. The hypotheses suggest that higher education levels correlate positively with the use of digital payment systems, and there is a significant relationship between income and purchasing behaviors involving electronic transactions.

Existing literature indicates a general acceptance of digital payments among Indian consumers, yet highlights significant barriers, such as cybercrime and a lack of security awareness. This study aims to fill the research gap by providing empirical data on how digital payment systems influence consumer spending habits, ultimately contributing to the discourse on financial inclusion and economic growth in India. The findings will serve as a valuable resource for fintech companies, policymakers, and educators aiming to foster a more cashless society.

Keywords: Digital payment system, Consumer purchasing behaviour, Traditional cash transactions, Consumer awareness & attitudes.

Introduction

Digital payment methods have become essential in our daily lives, offering a safe and efficient way to conduct transactions electronically. Originating from David Chaum's 1983 concept of digital cash, terms like e-currency and e-money now describe systems that facilitate online payments without the need for banks as intermediaries. These methods are characterized by their speed and ease of use, significantly enhancing security while reducing risks associated with cash, such as corruption and theft.

Electronic money is broadly defined as a digital representation of value suitable for transactions, often functioning as a prepaid instrument. Digital wallets enable users to make payments online or in-store via smartphones or computers and can link to bank accounts while storing identification documents.

Technologies like Near Field Communication (NFC) are increasingly utilized for wireless transactions, allowing digital wallets to also verify identity and age for restricted purchases. With notable adoption in countries like Japan, this project aims to explore the role of digital payment systems in the financial sector and their impact on consumer purchasing behavior.

Review of literature

Dr. K.A. Rajanna (2018): In his research, Dr. Rajanna found that Indian consumers generally agree with and are satisfied by the government's efforts to transition India to a cashless and digital economy, believing it will significantly combat corruption. However, he noted that cybercrime and unauthorized website access present major obstacles to achieving a cashless economy. Thus, it is essential to enhance internet security to protect individuals from online fraud, and the government must work harder to educate the public about the benefits of electronic payment systems while improving their security features.

S. MD. Shakir Ali & MD Wasim (2017): Their study highlights that the Indian economy is rapidly emerging as one of the strongest in the world. Key factors for sustaining its growth include enhanced transparency, corporate governance, and curbing parallel cash usage. They also talked about a variety of difficulties facing the implementation of digital payments in rural areas and the opportunities to address these challenges.

E. Gopi & Dr. R. Gokilavani (2018): Their research indicates that integrating traditional payment systems with a cashless economy requires some reforms and considerable effort, especially for low-income individuals who still rely on cash due to its perceived convenience. They suggest that India will require a substantial effort to change to a cashless economy, as a large a percentage of the populace is not accustomed to online banking or methods of payment. The commencement of affordable smartphones is anticipated to transform the banking sector in the future.

Priti Rai (2016): In her research, Rai examines the impact of the 2016 demonetization policy, which eliminated 500 and 1000 rupee notes, on MSME trading activities and payment modes. She found that customers began to adopt alternative payment methods, with mobile wallet companies emerging as key beneficiaries by providing easy solutions to payment challenges via smartphones.

Priti Rai (2016): Rai also revealed that before demonetization, cash was the preferred payment method, but afterwards, net banking became the dominant choice. This result is consistent with analyses from the Reserve Bank of India, which noted a rise in mobile banking usage.

Research gap

The research on digital payments in India reveals several gaps that warrant further exploration. Dr. K.A. Rajanna's findings highlight the need for enhanced internet security and public education on electronic payments. S. MD. Shakir Ali & MD Wasim identify challenges in rural digital payment implementation without offering specific solutions. E. Gopi & Dr. R. Gokilavani emphasize the importance of addressing low-income individuals' reliance on cash, but do not explore technological barriers. Priti Rai's work on the aftermath of demonetization lacks longitudinal insights into evolving consumer behavior. Almeida and George focus on the growth of credit cards but do not analyze shifts in consumer preferences. Joshi's examination of new card technologies misses real-world adoption rates.

Objectives of the study

1. To evaluate the attitude of consumers regarding the electronic transfer system.
2. To understand the importance of electronic payment methods in traditional commerce.

Type of research

Descriptive research is a type of research design that focuses on observing and describing the characteristics, behaviours, or phenomena of a subject without attempting to manipulate or control variables. Descriptive research is often used to answer questions like. Descriptive research design is employed in this study to measure customer experience, which leads to customer satisfaction. A systematic questionnaire with close-end questions and 5-point Likert scale was developed to examine service quality and customer satisfaction. Data is collected from both primary sources, such as structured surveys and focus groups, and secondary sources, including academic journals, industry reports and online articles.

Statistical tools and techniques

The gathered data is tabulated and subjected to statistical analysis using tools like chi-square, descriptive statistics, T-tests, and one-way ANOVA. SPSS software is then used to determine the hypothesis between the two variables. The information is displayed using a bar chart analysis, which makes it easier to assess how much the digital payment system has affected consumers' purchasing decisions

Statement of problem

The digital payment system is increasingly vital today, yet challenges remain, particularly regarding knowledge gaps and security concerns. This project aims to identify digital payment systems in our economy and assess their awareness, usage, and influence on consumer purchasing behavior. While the efficiency of these methods is recognized, empirical research on their specific impact on consumer behavior is scarce. Understanding how digital payment options affect decisions—such as spending habits, purchase frequency, and product selection—is essential for businesses and policymakers.

Scope of the study

India's payment system is undergoing significant change, driven by government efforts to accelerate financial inclusion and promote digital payments. This transition offers unprecedented opportunities, particularly for those in rural areas and migrants in cities. Rural India plays a crucial role in the nation's economic progress, and with increased ICT penetration and the effects of demonetization, enhancing electronic payment trends in these regions is essential. Benefits such as transaction transparency, reduced parallel economies, and simplified business operations underscore the importance of empowering the rural economy through electronic payments.

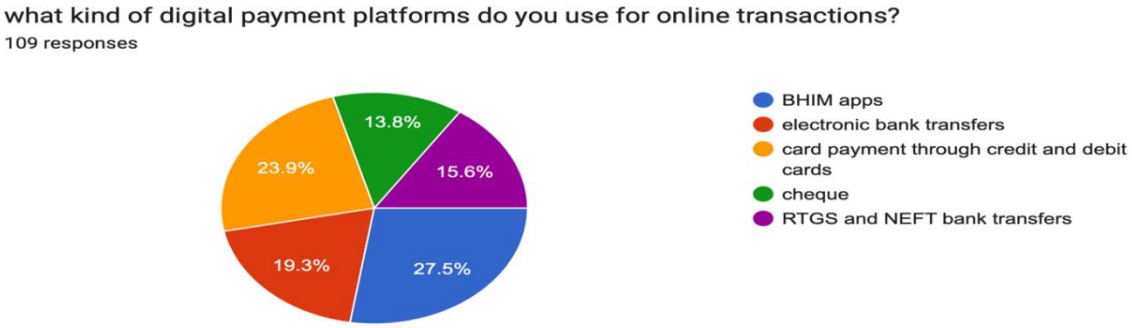
Data analysis and interpretation

Table 1: Table showing various digital payment platforms that the responders make use of do digital payments:

Digital payment platform	No. of respondents	Percentage of respondents
BHIM apps	30	27.5%
Electronic bank transfers	21	19.3%
Credit card/ debit cards	26	23.9%
Cheque	15	13.8%
RTGS and NEFT transfers	17	15.6%
Total	109	100%

Analysis: According to the above table, 27.5% of the participants use BHIM apps for digital payments, 23.9% of them use credit card/debit cards for digital payments, 19.3% of them use electronic bank transfers for digital payments, 15.6% of them use RTGS and NEFT bank transfers to do payments and 13.8% of respondents who were not present used cheque from banks to do digital payments.

Graph 1: Graph showing various digital payment platforms that respondents are to do digital payments:



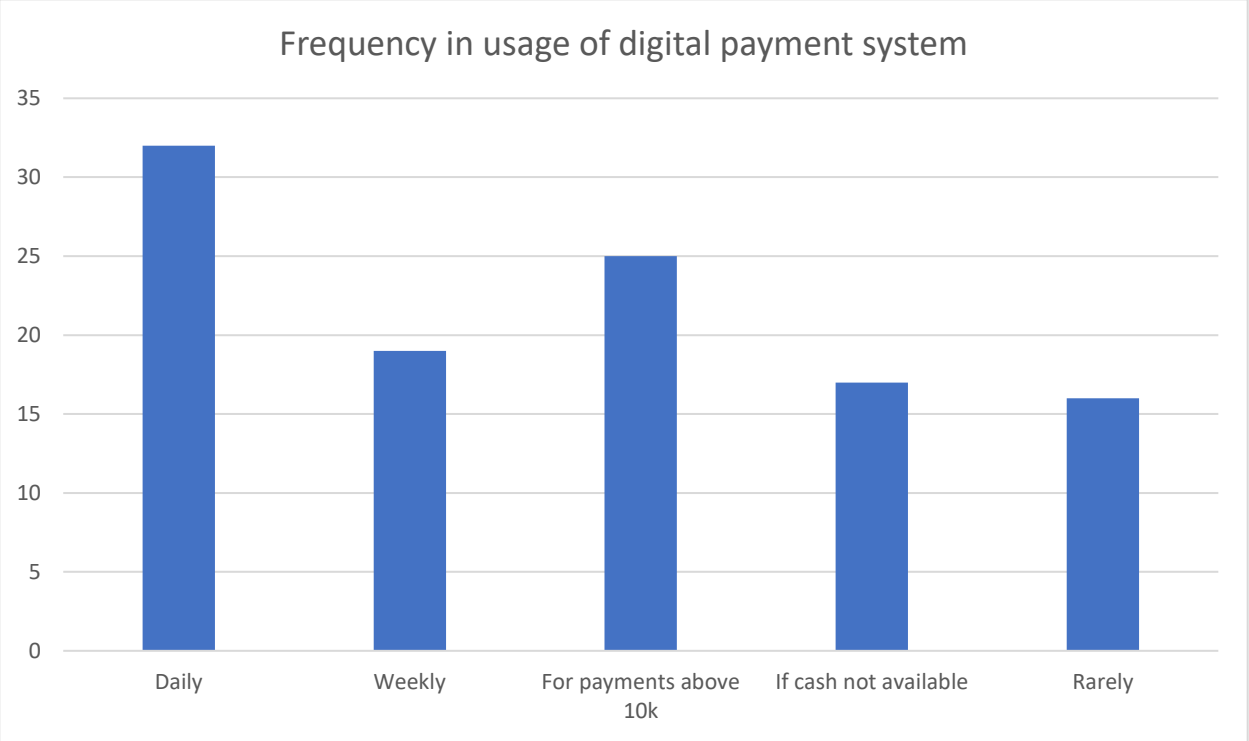
Interpretation: Most responders make use of BHIM apps for online transactions, based on what was said above table. This suggests that using electronic payments methods is situated on the rise, with apps for mobile payments setting the standard. Cheques are becoming less popular, while more conventional ways like credit/debit cards and electronic transfers are still widely used.

Table 2: Table showing how frequently respondents make use of a digital payment method for purchasing products:

How frequently do you use digital payment system?	No of respondents	Percentage of respondents
Daily	32	29.4%
Weekly	19	17.4%
For payments above 10k	25	22.9%
If cash not available	17	15.6%
Rarely	16	14.7%
Total	109	100%

Analysis: The aforementioned table shows that 29.4% of respondents make use of electronic payment methods every day, 22.9% use them for payments over $10,000, 17.4% use them once a week, 15.6% use them when cash is unavailable, and 14.7% use them just infrequently for transactions.

Graph 2: Graph showing how frequently respondents make use of a digital payment method for purchasing products:



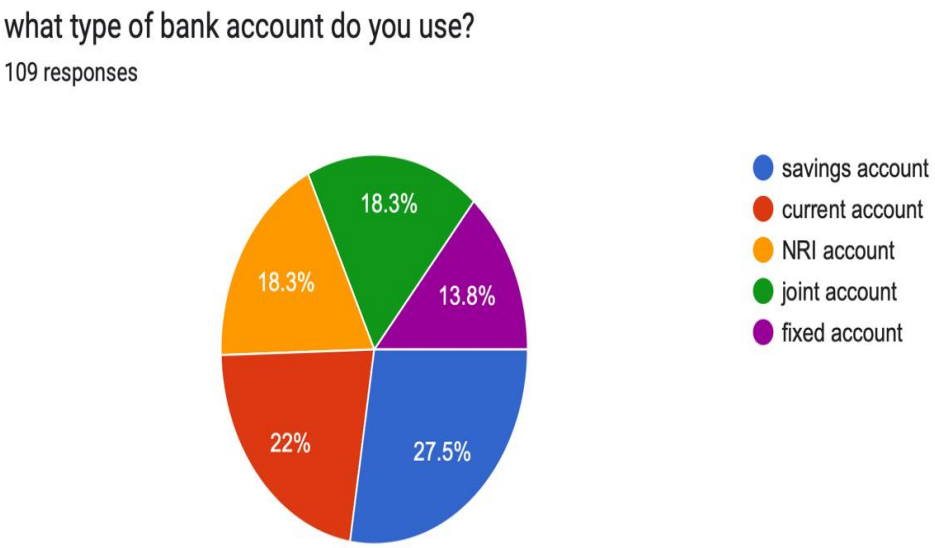
Interpretation: The above graph makes it evident that most respondents use digital payment methods on a daily basis. This shows the varying frequencies of electronic funds transfers usage among respondents. The significant percentage of daily users suggests a growing acceptance and integration of digital payments into everyday life.

Table 3: Table showing the nature of bank accounts that respondents use:

Type of a bank account the respondents use	No of respondents	Percentage of respondents
Savings account	30	27.5%
Current account	24	22%
NRI account	20	18.3%
Joint account	20	18.3%
Fixed account	15	13.8%
Total	109	100%

Analysis: The table above demonstrates that 27.5% of them use savings account, 22% of them use current account, 18.3% of them use NRI account, 18.3% of them use joint account and the remaining 13.8% of them use fixed account.

Graph 3: Graph showing the nature of bank accounts that respondents use:



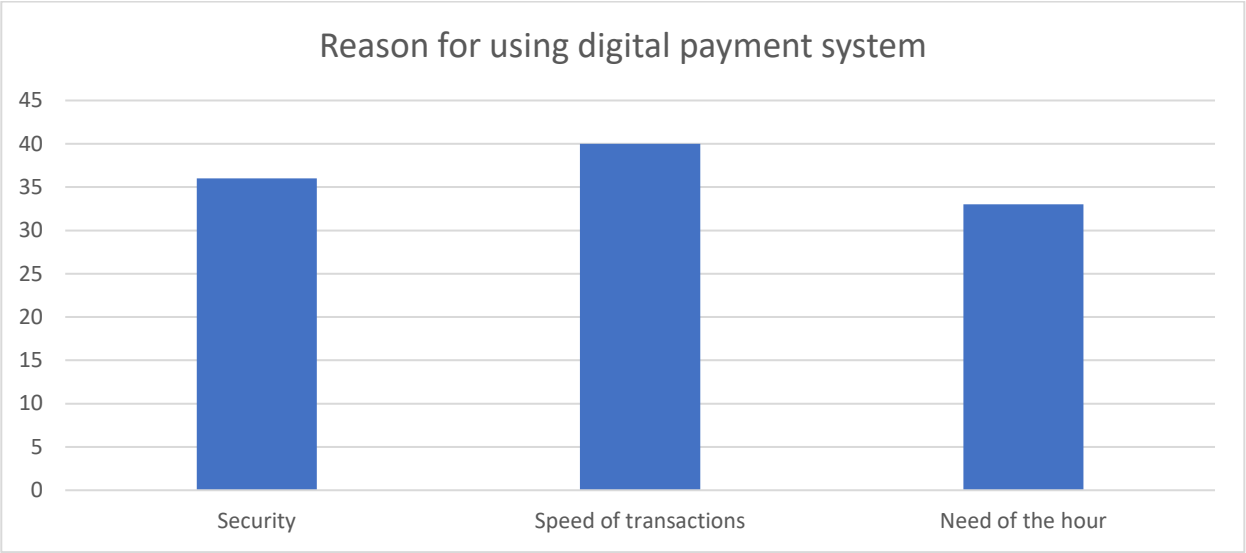
Interpretation: It is clear from the above graph that the majority of respondents use savings account in banks. This demonstrates that a diverse range of banking preferences among respondents. The predominance of savings and current accounts reflects a focus on both saving and managing daily transactions.

Table 4: Table showing respondents the rationale behind digital payment system:

Reason for using digital payment system:	No of respondents	Percentage of respondents
Security	36	33%
Speed of transactions	40	36.7%
Need of the hour	33	30.3%
Total	109	100%

Analysis: The table above indicates that 36.7% of respondents make use of digital payment methods for speedy transactions, 33% for security, and 30.3% for other reasons.

Graph 4: Graph showing respondents the rationale behind digital payment system:



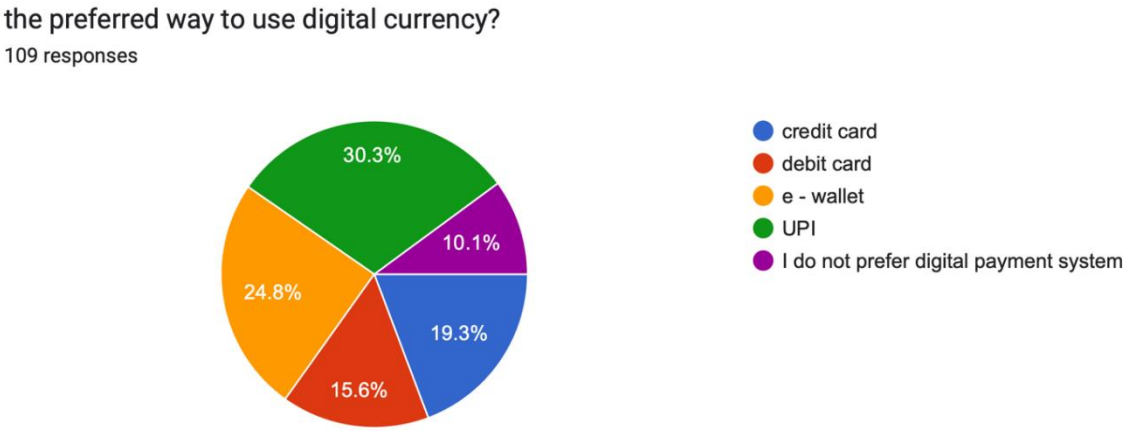
Interpretation: From the above graph, it can be interpreted that the speed and security are the two dominant motivations for utilizing digital payment methods, which are in line with customers' preferences for security and ease when making purchases.

Table 5: Table showing respondents preferred way to use digital currency:

Preferred way to use digital currency	No of respondents	Percentage of respondents
Credit card	21	19.3%
Debit card	17	15.6%
E- wallet	27	24.8%
UPI	33	30.3%
I do not prefer digital payment system	11	10.1%
Total	109	100%

Analysis: As can be seen from the above table, 30.3% of respondents use UPI, 24.8% use e-wallets, 19.3% use credit cards, 15.6% use debit cards, and 10.1% of respondents would rather not use a digital payment system.

Graph 5: Graph showing respondents preferred way to use digital currency:



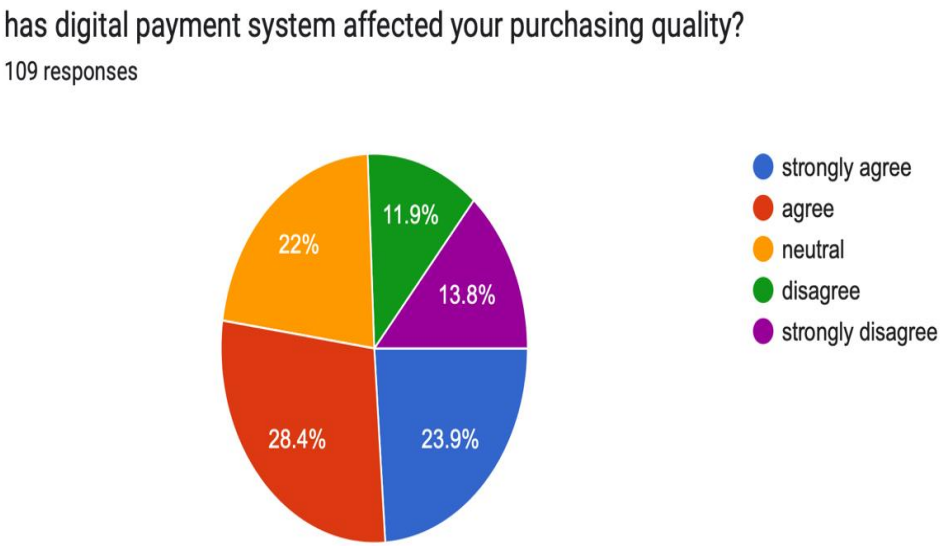
Interpretation: From the above graph, it can be interpreted that there is a clear preference for UPI and e-wallets among respondents for using digital currency, reflecting their emphasis on convenience and speed.

Table 6: Table showing if digital payment system has affected the respondents purchasing quality:

Has digital payment system affected respondents purchasing quality	No of respondents	Percentage of respondents
Strongly agree	26	23.9%
Agree	31	28.4%
Neutral	24	22%
Disagree	13	11.9%
Strongly disagree	15	13.8%
Total	109	100%

Analysis: As stated by the aforementioned table, 28.4% of respondents agree that the electronic payment method has affected their ability to make purchases, 23.9% of responders firmly concur that it has, 22% say the effect is neutral, 13.8% strongly disagree that the electronic payment method has affected their ability to make purchases, and 11.9% disagree that the electronic payment method has affected their ability to make purchases has affected their purchasing quality.

Graph 6: Graph showing if digital payment system has affected the respondents purchasing quality:

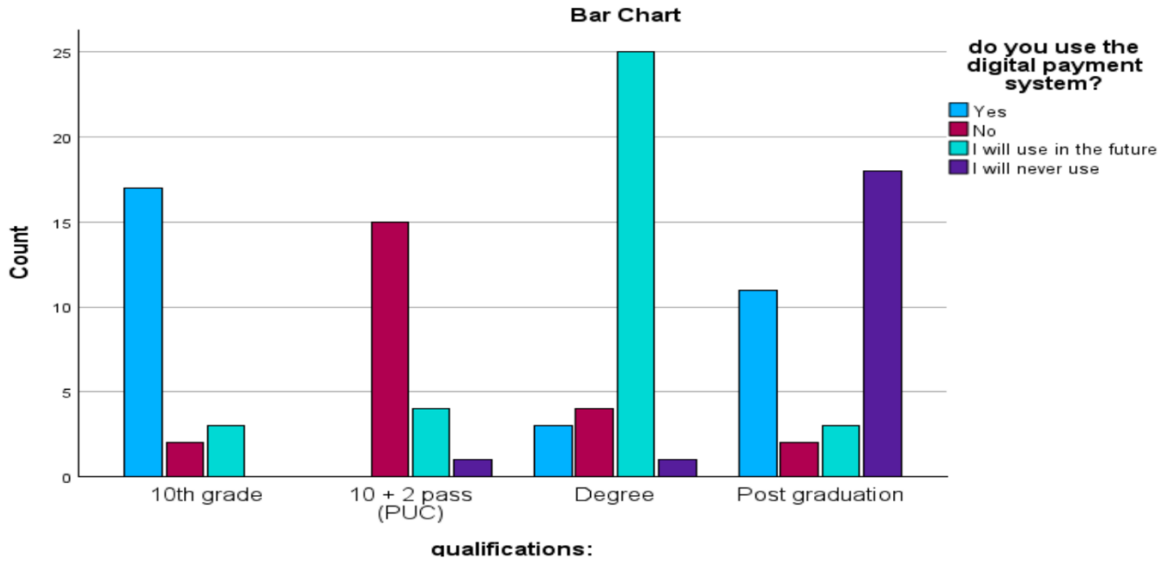


Interpretation: Considering the above graph, it might be interpreted that there is a generally positive perception of electronic funds transfers systems' impact on purchasing quality, with more than half of respondents (both those who agree and strongly agree) recognizing some level of benefit.

Hypothesis 1

H0: There is no significant relationship between purchase quantity and digital payment.

H1: There is a significant relationship between purchase quantity and digital payment.



This Hypothesis is tested using Anova test.

The ANOVA test is utilized to identify differences between two variables. Here, the overall purchasing quantity is the dependent variable, which is influenced by digital payment system.

One way

Descriptives								
has digital payment system affected your purchasing quality?								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Yes	31	2.58	1.587	.285	2.00	3.16	1	5
No	23	3.70	1.020	.213	3.25	4.14	1	5
I will use in the future	35	3.63	1.536	.260	3.10	4.16	1	5
I will never use	20	2.35	1.226	.274	1.78	2.92	1	5
Total	109	3.11	1.505	.144	2.82	3.40	1	5

ANOVA					
has digital payment system affected your purchasing quality?					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	37.540	3	12.513	6.343	<.001
Within Groups	207.139	105	1.973		
Total	244.679	108			

Interpretation:
P-value: 0.001
Level of significance (LOS): 0.05 (5%)
Since the P-value (0.001) < LOS (0.05), we can reject the null hypothesis (H0).

- According to the ANOVA table mentioned above, the F-value is computed as 6.343 with 3 degrees of freedom for the "Between Groups" and 105 degrees of freedom for the "Within Groups." The P-value associated with this F-statistic is <0.001, which is smaller than the significance level of 5% (0.05).

- This indicates that there is sufficient data to refute the null hypothesis (H0), which held that the quantity of purchases and digital payments have no discernible relationship.
- As a result, the alternative hypothesis (H1), which contends that the quantity of purchases and digital payment have a significant relationship, is accepted. The impact of the digital payment system on purchasing quantity varies significantly amongst groups based on how they use digital payments.

Summary of findings

1. A significant 32.4% of those questioned stated they planned to use digital payment methods later on.
2. In terms of education, 30.3% of respondents hold a double degree or are postgraduates.
3. Regarding income levels, 27.8% of respondents earn below 25k.

Suggestions

1. Provide the public with up-to-date knowledge about digital payment systems in order to encourage better use of them.
2. Inform the public about the different ways that online payment systems operate.
3. Raise public awareness of the different types of electronic payment fraud.
4. Encourage the use of online payment methods.
5. Raise public awareness of the advantages of digital payment systems in order for others to acknowledge their necessity and significance in the present environment.
6. Offer participants in the digital payment system additional benefits to encourage better use of the system.
7. Lessen the complexity of the digital payment system's transaction process. Give the digital payment system more control.

Conclusions

In today's fast-paced world, electronic payment methods are essential for everyday life. They save time through quick, paperless transactions. However, many people remain unaware of these systems, often preferring traditional cash transactions due to perceived security. This lack of knowledge prevents widespread adoption of digital payments. Despite these challenges, it's clear that digital payment systems will continue to evolve and address their limitations, leading to greater acceptance in the future.

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