EXPLORING THE USAGE OF ELECTRONIC PAYMENT APPLICATIONS AMONG CUSTOMERS OF MUMBAI AND NAVI MUMBAI

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ABSTRACT

The study explores the patterns and trends related to use of electronic payment applications (EPAs) by the customers of Mumbai and Navi Mumbai. Mainly the research work focuses on investigating whether there are any demographic differences in the usage of electronic payment applications and examine the level of usage of Electronic Payment Applications among the customers of Mumbai and Navi Mumbai. A survey method was being applied and primary data collection was done using the instrument questionnaire. The hypotheses testing results confirm that there is significant difference between the usage of electronic payment applications among the customers of Mumbai and Navi Mumbai, similarly there is significant difference between the usage of electronic payment applications among the customers based on gender and Income. These findings suggest that geographical location, gender, and income significantly influence the adoption and utilization of electronic payment methods. By identifying these differences, the study highlights the importance of tailoring electronic payment services to cater to the unique needs and preferences of diverse customer segments.

Keywords: Electronic Payment Applications, Digitization, Customer Segments

1. INTRODUCTION

The introduction of online payment apps has significantly transformed the process of conducting transactions in the ever-changing world of modern business. Due to the widespread use of smartphones and internet access, these digital platforms provide unparalleled ease, security, and efficiency in handling financial transactions. This study aims to investigate the usage trends of online payment apps among clients in Mumbai, a vibrant metropolis in India.

Mumbai, known as the economic hub of India, is famous for its thriving economy and varied consumer demographic. The city has experienced a notable increase in the use of online payment apps in recent years, which is indicative of the overall shift towards digitization in the financial industry. With the increasing use of cashless transactions by consumers, it is crucial for businesses and governments to have a deep understanding of their usage habits, preferences, and concerns.

The objective of this study is to provide insights into the usage patterns of online payment applications among consumers in Mumbai and Navi Mumbai. This includes examining the frequency of usage, the platforms that are most favoured, the variables that influence the adoption of these applications, and the perceived advantages and problems associated with their use. The study aims to gain useful insights into the changing environment of digital payments in Mumbai by examining these characteristics. It also intends to influence policies for improving user experience, fostering financial inclusion, and supporting innovation in the fintech industry.

This study aims to comprehensively understand the complex viewpoints and experiences of consumers about online payment apps by utilizing a combination of quantitative surveys and qualitative interviews. The research seeks to discover significant patterns, difficulties, and prospects in the uptake and utilization of various digital platforms through the analysis of gathered data. In addition, the study will examine possible consequences for companies, financial institutions, governments, and other stakeholders who have a role in creating Mumbai's digital payment system.

The primary objective of this research is to enhance the current understanding of the utilization of online payment applications in metropolitan areas, particularly in Mumbai. The objective of this study is to provide evidence-based recommendations for promoting the growth and development of digital payments in Mumbai and Navi Mumbai by analysing customer behaviour and preferences.

2. REVIEW OF LITERATURE:

Kaur et al. (2020) this study investigates the rapid increase in the usage of mobile wallet applications, highlighting their practicality and efficiency in facilitating transactions and ensuring payment security. Despite their apparent benefits, the authors note a lag in the widespread adoption of mobile wallets within the market.

Ghosh et al. (2021) explores how advancements in information and communication technology (ICT) have transformed modern payment methods, particularly with the ubiquity of smartphones and internet accessibility. This shift towards digitalization has not only streamlined trade and commerce but has also significantly expedited payment transactions.

Vinitha and Vasantha (2018) the authors emphasize the profound impact of the digital revolution on people's daily lives, attributing much of this transformation to the convenience and connectivity afforded by digital payments and the World Wide Web. They highlight the pivotal role of digital payments in enhancing user satisfaction and fostering consumer loyalty.

Pillai et al. (2019) this study observes a notable trend towards non-cash modes of transactions, particularly during periods of cash shortages. Factors such as simplicity and interoperability influence this shift, although lingering security concerns persist among users, affecting their willingness to engage in online transactions.

Maindola et al. (2018) the authors shed light on the rapid growth of digital payment systems in India, particularly catalysed by technological advancements and government initiatives such as demonetization. They highlight the emergence of numerous non-banking players in the payment sector following these developments.

Mishra et al. (2018): Mishra and Swain discuss the surge in popularity of mobile payment systems, driven by factors such as increased smartphone penetration, accessible high-speed internet, and the demand for quicker payment settlements. Despite significant efforts by the government to promote digital literacy and alternative payment methods, adoption rates remain below expectations.

Gupta et al. (2020) this study explores the relationship between users' perceptions of ease of use and usefulness of mobile payment systems and their attitude and intention to adopt such systems. The authors find a positive correlation between perceived ease of use, perceived usefulness, attitude, and intention to adopt mobile payment systems, supporting the technology acceptance model.

3. RESEARCH METHODOLOGY:

Research methodology is the systematic framework that guides the process of conducting a research study. It involves the selection of appropriate research design, data collection methods, and data analysis techniques. By outlining the steps and procedures to be followed, research methodology ensures the reliability, validity, and replicability of the study's findings.

Sampling Technique: Convenience sampling technique

Sample Size: 400 respondents as users of electronic payment applications from Mumbai and Navi Mumbai. The primary data was being collected using a well-structured questionnaire which included questions related to usage of electronic payment applications and demographic aspects.

Tools & Techniques: For hypotheses testing Pearson Chi-Square and Likelihood Ratio test were being applied and the analysis being formed using SPSS software.

OBJECTIVE:

1. To investigate whether there are any demographic differences in the usage of Electronic Payment Applications, including factors such as age, income level, and educational background.

2. To examine the level of usage of Electronic Payment Applications among the customers of Mumbai and Navi Mumbai.

HYPOTHESES:

1. There is no significant difference between the usage of Electronic Payment Applications among the customers of Mumbai and Navi Mumbai.

2. There is no significant difference between the usage of Electronic Payment Applications among the customers based on gender.

3. There exists no statistically significant difference in the usage of Electronic Payment Applications among customers based on age.

4. There exists no statistically significant difference in the usage of Electronic Payment Applications among customers based on Income.

5. There is no significant difference between the usage of Electronic Payment Applications among the customers based on Education.

4. Data Analysis & Interpretation:

4.1 Region and Usage of Electronic Payment Applications:

The cross tabulation below shows the combined representation of use of electronic payment applications in Mumbai and Navi Mumbai.

$H_0 1$: There is no significant difference between the usage of Electronic Payment Applications among the customers of Mumbai and Navi Mumbai.

$H_0 1$: There is significant difference between the usage of Electronic Payment Applications among the customers of Mumbai and Navi Mumbai.

Table 4.1

Region and Usage of Electronic Payment Applications: Cross Tabulation							
		Usage of EPAs					
		High	Low	Medium	Very High	Very Low	Total
Region	Mumbai	127	21	0	0	42	190
	Navi Mumbai	126	21	21	42	0	210
Total		253	42	21	42	42	400

Table 4.2

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	104.265[a]	4	.000
Likelihood Ratio	144.564	4	.000
N of Valid Cases	400		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.98.			

In order to test the above-mentioned null hypothesis $H_0 1$ Chi-Square test and Likelihood Ratio were being applied the results are shown in the table above. As the Pearson Chi-Square value (χ^2) is found to be 104.265 and Likelihood Ratio value of 44.564 at degree of freedom 4. The P-value of Pearson Chi-Square and Likelihood Ratio is found to 0.00 which suggest that it is quite less than the standard alpha value of 0.05 confirming that the null hypothesis is rejected and the alternate hypothesis is being accepted. From the results above it can be interpreted that there is significant difference between the usage of Electronic Payment Applications among the customers of Mumbai and Navi Mumbai. The distribution of electronic payment applications usage varies particularly across the two regions Mumbai and Navi Mumbai, indicating that geographical region plays an important role in influencing consumers' adoption and utilization of electronic payment methods.

4.2 Gender and Usage of Electronic Payment Applications:

$H_0 2$: There is no significant difference between the usage of Electronic Payment Applications among the customers based on gender.

$H_0 2$: There is significant difference between the usage of Electronic Payment Applications among the customers based on gender.

The cross tabulation below shows the combined representation of use of electronic payment applications and gender wise classification.

Table 4.3

		High	Low	Medium	Very High	Very Low	Total
Gender and Usage of Electronic Payment Applications: Cross Tabulation							
		Usage of EPAs					
Gender	Female	63	21	21	21	42	150
	Male	190	21	0	21	0	250
Total		116	253	42	21	42	42

Table 4.4

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	119.572[a]	4	.000
Likelihood Ratio	143.794	4	.000
N of Valid Cases	400		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.82.			

To test the above-mentioned null hypothesis $H_0 2$ Chi-Square test and Likelihood Ratio were being applied the results are shown in the table above. As the Pearson Chi-Square value (χ^2) is found to be 119.572 and Likelihood Ratio value of 143.794 at degree of freedom 4. The P-value of Pearson Chi-Square and Likelihood Ratio is found to 0.00 which suggest that it is quite less than the standard alpha value of 0.05 confirming that the null hypothesis is rejected and the alternate hypothesis is being accepted. From the results above it can be interpreted that there is significant difference between the usage of electronic payment applications among the customers based on gender. This generalizes that gender influences the way individuals engage with electronic payment methods, potentially due to factors like technological familiarity, financial behaviour, or cultural norms.

4.3 Age and Usage of Electronic Payment Applications:

$H_0 3$: There exists no statistically significant difference in the usage of Electronic Payment Applications among customers based on age.

$H_0 3$: There exists statistically significant difference in the usage of Electronic Payment Applications among customers based on age.

The cross tabulation below shows the combined representation of use of electronic payment applications and age wise classification.

Table 4.5

		High	Low	Medium	Very High	Very Low	Total
Age and Usage of Electronic Payment Applications: Crosstabulation							
		Usage					
Age	18-28	58	9	5	12	9	93
	29-38	92	15	7	13	17	144
	39-48	62	9	4	9	9	93
	49 and above	41	9	5	8	7	70
Total		253	42	21	42	42	400

Table 4.6

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.904[a]	12	.996
Likelihood Ratio	2.822	12	.997
N of Valid Cases	400		
a. 3 cells (15.0%) have expected count less than 5. The minimum expected count is 3.68.			

Accordingly, to test the null hypothesis $H_0 3$ Chi-Square test and Likelihood Ratio were being applied the results are shown in the table above. As the Pearson Chi-Square value (χ^2) is found to be 2.904 and Likelihood Ratio value of 2.822 at degree of freedom 12. The P-value of Pearson Chi-Square and Likelihood Ratio is found to 0.996 which suggest that it is quite higher than the standard alpha value of 0.05 confirming that the null hypothesis is being accepted and the alternate hypothesis is being rejected. From the results above it can be interpreted that there exists no statistically significant difference in the usage of electronic payment applications among customers based on age. This implies that individuals across different age groups demonstrate similar patterns of engagement with electronic payment methods,

4.4 Income Level and Usage of Electronic Payment Applications:

$H_0 4$: There exists no statistically significant difference in the usage of Electronic Payment Applications among customers based on Income.

$H_0 4$: There exists statistically significant difference in the usage of Electronic Payment Applications among customers based on Income.

The cross tabulation below shows the combined representation of use of electronic payment applications and income wise classification.

Table 4.7

Income Level and Usage of Electronic Payment Applications: Crosstabulation							
		Usage					
		High	Low	Medium	Very High	Very Low	Total
Income Level	Above Rs. 80,000 per month	0	0	0	0	41	41
	Below Rs. 20,000 per month	0	0	21	0	0	21
	Rs. 20,000 - Rs. 40,000 per month	5	40	0	0	0	45
	Rs. 40,001 - Rs. 60,000 per month	248	2	0	0	1	251
	Rs. 60,001 - Rs. 80,000 per month	0	0	0	42	0	42
Total		253	42	21	42	42	400

Table 4.8

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1517.577[a]	16	.000
Likelihood Ratio	855.775	16	.000
N of Valid Cases	400		
a. 16 cells (64.0%) have expected count less than 5. The minimum expected count is 1.10.			

To test the above-mentioned null hypothesis H_04 Chi-Square test and Likelihood Ratio were being applied the results are shown in the table above. As the Pearson Chi-Square value (χ^2) is found to be 1517.577 and Likelihood Ratio value of 855.775 at degree of freedom 16. The P-value of Pearson Chi-Square and Likelihood Ratio is found to 0.00 which suggest that it is quite less than the standard alpha value of 0.05 confirming that the null hypothesis is being rejected and the alternate hypothesis is being accepted. From the results above it can be interpreted that there exists statistically significant difference in the usage of Electronic Payment Applications among customers based on Income. This generalizes that customers with varying income levels exhibit distinct patterns of engagement with electronic payment methods.

4.5 Education and Usage of Electronic Payment Applications:

H_05: There is no significant difference between the usage of Electronic Payment Applications among the customers based on Education.

H_05: There is significant difference between the usage of Electronic Payment Applications among the customers based on Education.

The cross tabulation below shows the combined representation of use of electronic payment applications and education wise classification.

Table 4.9

Education and Usage of Electronic Payment Applications: Crosstabulation							
		Usage					
		High	Low	Medium	Very High	Very Low	Total
Education	Graduation	97	17	8	18	17	157
	Post Graduation	55	10	5	10	11	91
	Secondary	11	2	1	1	1	16
	Senior Secondary	90	13	7	13	13	136
Total		253	42	21	42	42	400

Table 4.10

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.865[a]	12	1.000
Likelihood Ratio	1.947	12	.999
N of Valid Cases	400		
a. 5 cells (25.0%) have expected count less than 5. The minimum expected count is .84.			

Accordingly, to test the null hypothesis H_05 Chi-Square test and Likelihood Ratio were being applied the results are shown in the table above. As the Pearson Chi-Square value (χ^2) is found to be 1.865 and Likelihood Ratio value of 1.947 at degree of freedom 12. The P-value of Pearson Chi-Square and Likelihood Ratio is found to 1.00 which suggest that it is quite higher than the standard alpha value of 0.05 confirming that the null hypothesis is being accepted and the alternate hypothesis is being rejected. From the results above it can be interpreted that there is no significant difference between the usage of Electronic Payment Applications among the customers based on Education. This generalizes that customers with different educational backgrounds exhibit similar patterns of engagement with electronic payment methods, regardless of their level of formal education.

CONCLUSIONS

The study finds the relationship between various demographic aspects and the use of electronic payment applications (EPAs) among the customers of Mumbai and Navi Mumbai. In order to analyse mainly five hypotheses (H1 to H5) were being framed and being tested using the Chi-Square test and Likelihood Ratio statistical methods. The null hypotheses H_01, H_02 and H_04 were being rejected confirming that there is significant difference between the usage of electronic payment applications among the customers based on region, gender and income whereas the null hypotheses H_03 and H_05 were being accepted confirming that there exists no statistically significant difference in the usage of electronic payment applications among customers based on age and education. The suggestions to stakeholders are to frame marketing strategies to regional differences in electronic payment application (EPA) usage, prioritize gender-inclusive design, and segment the customer base by income levels. While age and education show no significant impact on EPA usage, ensure accessibility and usability for users of all backgrounds to foster widespread adoption.

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