Understanding Digital Payment Adoption among Youths in Mumbai City

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Abstract— India is experiencing a significant shift towards digitalization. The adoption of digital payments has become a significant aspect of India's financial landscape. As today's youths are popularly called digital natives, it becomes important to understand their perception of Digital Payments and their adoption. This study was conducted to investigate the various factors that influence the adoption of digital payments among youths in Mumbai. Demographic factors, socio-cultural factors, perceived benefits, perceived challenges, trust & security were the factors considered for the study. The research methodology involved the collection of data from 145 youths of Mumbai City using a structured, closed-ended questionnaire. Statistical analyses including T-statistic, correlation, and descriptive statistics were employed to examine the relationships between the independent and dependent variables. The research findings revealed significant associations between demographic factors, socio-cultural factors, perceived benefits, perceived challenges and digital payment adoption among youths in Mumbai. Demographic factors such as age and income level, socio-cultural factors including peer and family dynamics, perceived benefits such as convenience and accessibility, and perceived challenges such as security concerns are crucial factors that influence the adoption of digital payments among youths. Whereas trust & security do not influence the adoption of digital payment The research findings offer valuable insights to the government, service providers, financial institutions, and policymakers to develop strategies that can help increase digital payment adoption among the youths in the country.

Keywords: Digital Payment Adoption, Youths, Mumbai City, Digital Financial Services.

I. INTRODUCTION

Digital payments are those that take place online or through digital platforms. This indicates that electronic means are used by both the payer and the payee to exchange money [3]. Digital payments are becoming a popular method of payment nowadays as it is simple to use. It needs only a tap, click, or swipe and is quick and easy to complete. Digital Payments offer built-in security and verification methods to shield consumers from dangers, making it a more secure choice all around. The global industry for digital payments has expanded significantly in recent years due to various reasons such as an increase in the number of smartphone users, an increase in internet connectivity, the promotion of digital payments by governments and the COVID-19 pandemic. At a 9.1% compound annual growth rate (CAGR), it will increase from $115.93 billion in 2023 to $126.47 billion in 2024[2]. India, which was earlier known as a cash-based economy, is evolving into a cashless economy. The Indian government has implemented several initiatives to promote digital payments. The government wants to establish a "digitally empowered" economy that is "faceless, paperless, and cashless" as numerous benefits will result from this, including lower costs for managing currencies, tracking transactions, preventing tax evasion or fraud, improving financial inclusion, and progressively integrating the parallel economy with the mainstream [14]. Thanks to the establishment of an environment that facilitates the adoption and usage of digital payment methods, India has emerged as a pioneer in this field in recent years. When compared to other countries, it has a very high adoption rate for digital payments, which makes many other countries desire to study it and take advantage of its design choices and lessons learned. In FY 2022–2023 alone, the value of digital payment transactions jumped by 58% in a single year, from INR 71.97 billion to INR 113.94 billion [15]. A lot of research has been done to understand the factors which affect consumers' adoption of Digital Payments. As far as we know, very little research has been done on understanding youths' perception towards Digital Payment adoption. This study fills this gap by focusing specifically on the youth of Mumbai City and the factors which affect their adoption of Digital Payment. The objective of this paper is to study the factors which affect youths' adoption of Digital payments, including demographic factors, socio-cultural factors, perceived benefits, perceived challenges, trust and security.

II. LITERATURE REVIEW

Ajmera and Bhatt (2020) [1] conducted a cross-sectional survey in Ahmedabad to collect data from participants using e-wallet services in order to get information from users of e-wallet services. This study demonstrates that consumer behaviour is greatly influenced by trust, thus e-wallet providers need to make sure that all drawbacks, including security, stability, certification, licensing, round-the-clock assistance, and privacy concerns, are adequately handled to win over more customers.

Patil et al. (2017) [7] in their study reviewed research on digital and mobile payment adoption. The study identifies ease of use, compatibility, and convenience as critical factors

influencing the intention to adopt mobile payments. It suggests future research directions, including examining different technologies like QR codes and biometric payments and exploring the impact of age and cultural differences on adoption.

Sivathanu (2019) [13] in his research examined the usage of digital payment systems during India's demonetisation period in 2016, using the UTAUT 2 and innovation resistance theory. Primary data was collected from 766 respondents using a pre-tested questionnaire and data analysis was done using PLS-structural equation modelling. The study concluded that Behavioral intention and innovation resistance significantly impact digital payment system usage, moderated by cash payment stickiness.

Shree et al (2021) [10] in their study examined the rise in digital payment systems in India, attributed to legislative measures and technological breakthroughs. It highlights the contradiction between rising cash usage and the increase in digital payments. The study suggested that demographic elements such as age, gender, and income, along with a person's perception and trust in the payment system, significantly impact the adoption of digital payments. It also emphasises on understanding consumer motivations and barriers to enhance the digitisation of payments.

Singh (2019) [12] in his study reviews the history of mobile e-wallets, starting from the first patent in 2000, and examines the factors influencing consumer adoption over four distinct phases from 2002 to 2019. Through analysis of various research, the study reveals that consumers aged 21-35 are the primary users of e-wallets for transactions like recharges, bill payments, and money transfers. The paper emphasizes the importance of security, ease of use, and the role of NFC technology in the adoption of digital wallets, and also highlights the concerns and slow adoption rate due to security vulnerabilities.

Ghosh (2021) [4] in his study reviews the literature on the adoption of digital payment systems, discussing the shift from traditional to digital transactions due to advancements in ICT and the growth of e-commerce. The study uses secondary data and examines various factors that influence consumer adoption of digital payment methods, including convenience, security concerns, and the impact of government initiatives like demonetisation. It concludes that digital payments facilitate transactions and offer several benefits like time-saving and security.

Patil et al. (2018) [8] in their study reviewed factors influencing consumer attitudes, intentions, and usage of digital payment methods (DPMs), particularly in developing countries. It analyses constructs from models like TAM and UTAUT, along with trust and risk, to understand consumer behaviour towards DPMs. The study suggests a thorough examination of antecedents such as attitude, satisfaction, and continuing intention and emphasizes the need for additional empirical research on DPM adoption in the context of developing nations.

Singh & Rana (2017) [11] in their study discuss the significant growth of digital payments in India, driven by internet and mobile phone usage, government initiatives like Digital India, and the demonetisation event in 2016. The study focused on various modes of digital payments including mobile wallets, prepaid credit cards, and others. The study reveals that education level significantly influences digital payment adoption, while other demographic factors do not. It also highlights the role of digital payments in financial inclusion and the potential for a cashless economy in India

Sahi et al. (2021) [9] in their study provide a systematic review of 193 articles from Scopus and Web of Science databases, focusing on factors influencing the adoption of digital payment methods. The study emphasizes the significance of understanding customer perspectives on digital payments and suggests future research directions in this area. The methodology involved a systematic approach to identifying relevant literature, highlighting the importance of using clear processes and criteria in literature reviews.

Nur & Panggabean (2021) [6] in their study investigated the factors influencing mobile payment adoption among Generation Z using an extended Unified Theory of Acceptance and Use of Technology (UTAUT) model. The methodology involved utilising the Partial Least Square-Structural Equation Model (PLS-SEM) for analysis, with a sample of 100 Generation Z respondents from the Jabodetabek area. The study suggested that Performance Expectancy, Social Influences, Facilitating Conditions, Perceived Enjoyment, and Trust are significant factors that affect Behavioral Intention to use mobile payments among Gen Z.

III. RESEARCH OBJECTIVES & HYPOTHESIS

Objectives:

- To identify the factors influencing the adoption of digital payment technologies among youth in Mumbai City.
- To investigate the benefits and challenges faced by youth while using digital payments.

Hypothesis:

H_{01}: Demographic factors do not significantly influence the adoption rates of digital payment technologies among youth in Mumbai City.

H_{A1}: Demographic factors significantly influence the adoption rates of digital payment technologies among youth in Mumbai City.

H_{02}: Socio-cultural factors do not significantly influence the adoption rates of digital payment technologies among youth in Mumbai City.

H_{A2}: Socio-cultural factors significantly influence the adoption rates of digital payment technologies among youth in Mumbai City.

H_{03}: Perceived benefits do not significantly influence the adoption rates of digital payment technologies among youth in Mumbai City

H_{A3}: Perceived benefits significantly influence the adoption rates of digital payment technologies among youth in Mumbai City

H_{04}: Perceived challenges do not significantly influence the adoption rates of digital payment technologies among youth in Mumbai City

H_{A4}: Perceived challenges significantly influence the adoption rates of digital payment technologies among youth in Mumbai City.

H_{05}: Trust and security do not significantly influence the adoption rates of digital payment technologies among youth in Mumbai City

H_{A5}: Trust and security significantly influence the adoption rates of digital payment technologies among youth in Mumbai City
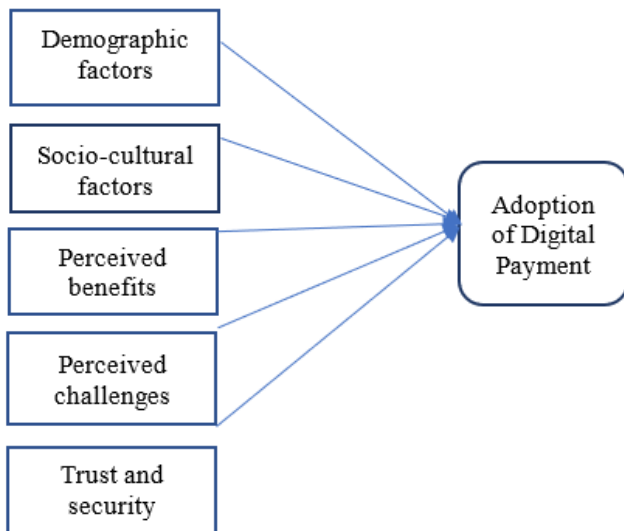
Figure 1. Conceptual Framework of the Study

IV. LIMITATIONS & SCOPE FOR FUTURE RESEARCH

- A sample size of 145 youths is considered for the study. So, future research can be done on a larger sample which represents the diversity of students' demographics.
- There can be several other external factors that could affect the adoption of digital payments such as government policies and regulations, technological factors, economic factors, etc. Future studies can examine the impact of the above factors on UPI adoption among students.
- Convenience sampling technique was used to collect data from the respondents. Participants who volunteered to participate may not be representative of the entire youth population in Mumbai

V. RESEARCH METHODOLOGY

A quantitative research methodology was employed in the study to examine the correlation between the independent and dependent variables. The study focuses on the influence of various factors on the adoption of digital payments by the youth in Mumbai City. Primary data was collected for this purpose to gather information from youths. For this study, information was collected from 145 youths who are active users of digital payments. Using convenience sampling, the survey was carried out. An online Google Forms survey was used to collect structured data from respondents. The aim of the study was clearly communicated to the participants, and their identity was kept confidential. Data was analysed using descriptive statistics, Correlation and T-statistics.

VI. DATA ANALYSIS & INTERPRETATION

A. Descriptive Statistics

From the surveyed data, we can draw the following conclusions about the different factors:

- The average perceived benefits score is 4.503, indicating that, on average, respondents perceive a high level of benefits
- The median and mode values are both around 4.667, suggesting that the majority of respondents perceive benefits at a relatively high level.

	Avg DF	Avg SC	Avg PB	Avg PC	Avg TS
Mean	3.296	3.937	4.503	3.444	3.724
Median	3	5	4.667	3.5	4
Mode	3	5	4.667	3	4
Standard Deviation	1.029	1.375	0.563	0.901	1.152
Sample Variance	1.060	1.891	0.318	0.812	1.326

- The average socio-cultural factors score is 3.937, indicating a moderate level of influence from socio-cultural factors.
- The median and mode values are both 5, suggesting that there is a considerable variation in perceptions of socio-cultural factors among respondents.
- The average scores for demographic factors and perceived challenges are lower compared to perceived benefits, indicating that respondents perceive less influence from demographic factors compared to benefits.
- The median and mode values for these factors also indicate a similar trend of moderate to low perception compared to benefits.
- The average trust and security score is 3.724, indicating a moderate level of trust and security among respondents.
- The median and mode values are both 4, indicating a

consistent lack of trust and security among respondents.

- Perceived benefits have relatively low standard deviation and sample variance values, indicating less variability and more consistency in responses.
- Socio-cultural factors and trust/security show slightly higher variability, suggesting that respondents' perceptions vary more widely in this area.
- Demographic factors and perceived challenges also show moderate variability, indicating some diversity in respondents' perceptions.

Overall, these conclusions suggest that respondents generally perceive high levels of benefits, moderate levels of socio-cultural influence and lack of trust/security, and relatively lower levels of influence from demographic factors and perceived challenges. However, there is variability in perceptions across all factors, with socio-cultural factors showing the most variation among respondents.

B. Correlation

	Avg DF	Avg SC	Avg PB	Avg PC	Avg TS
Avg DF	1				
Avg SC	0.0866137	1			
Avg PB	0.0699592	0.02564138	1		
Avg PC	-0.1505226	-0.04757781	0.0641082	1	
Avg TS	0.1162944	0.19078637	0.0406799	-0.1853142	1

There is zero correlation among variables. The variables are not significantly correlated and hence not dependent on each other, thereby indicating that they are important towards independent contributions for the adoption of digital payments. This also helps us establish that improving one of the above factors will only influence adoption and not any other factors.

HYPOTHESES RESULT		
Hypothesis Statements	**P Value based on T-test**	**Results**
H_{01}: Demographic factors do not significantly influence the adoption rates of digital payment technologies among youth in Mumbai City	8.13×10^{-6} < 0.05	Rejected
H_{02}: Socio-cultural factors do not significantly influence the adoption rates of digital payment technologies among youth in Mumbai City	$0.003 < 0.05$	Rejected
H_{03}: Perceived benefits do not significantly influence the adoption rates of digital payment technologies among	7.67×10^{-14} < 0.05	Rejected
youth in Mumbai City		
H_{04}: Perceived challenges do not significantly influence the adoption rates of digital payment technologies among youth in Mumbai City	$0.001 < 0.05$	Rejected
H_{05}: Trust and security do not significantly influence the adoption rates of digital payment technologies among youth in Mumbai City	$0.49 > 0.05$	Do not reject

The rejection of H01 suggests that demographic factors such as age, gender, education and income level have a significant influence on the adoption of digital payment among the youth in Mumbai City. This indicates that characteristics such as age, gender, income level, and education level play an important role in adopting digital payment technologies.

The rejection of H02 suggests that socio-cultural factors, such as social norms, family and peer influence, and cultural practices, significantly influence the adoption of digital payment among youth in Mumbai City. This indicates that socio-cultural factors play an important role in shaping the attitudes and behaviours of youths towards digital payment adoption.

The rejection of H03 suggests that the perceived benefits of digital payment technologies, such as ease of use, convenience, and speed of transactions have a significant influence on the adoption of digital payment among youth in Mumbai City. This indicates that the youth are more inclined to adopt digital payment technologies when they perceive the benefits associated with using these technologies.

The rejection of H04 suggests that the perceived challenges, such as delay or time lags, service charges, and lack of awareness significantly influence the adoption of digital payment among youth in Mumbai City. This indicates that addressing these challenges is important to increase the adoption of digital payment technologies among the youth.

The acceptance of H05 suggests that factors such as transparency of operations, security of personal and financial information, and trust in service providers do not have a significant influence on the adoption of digital payment among youth in Mumbai City. This suggests that while trust and security are important, they may not be the primary factors influencing the adoption of digital payments among youths.

VII. CONCLUSION

The study examined the factors which affect the adoption of digital payments among the youth in Mumbai City. Demographic factors, socio-cultural factors, perceived benefits, perceived challenges, trust and security were the factors considered for the study. The research findings suggest that demographic factors, socio-cultural factors,

perceived benefits, and perceived challenges significantly influence the adoption of digital payment technologies among youth in Mumbai City. Whereas, trust and security do not influence the adoption of digital payment. These findings are important for policymakers, financial institutions, and technology providers to develop strategies to increase the adoption of digital payment among the youth population. Based on the research findings, the study recommends several measures to promote digital payment adoption among youths in Mumbai. These measures include improving security, improving user experience, raising awareness about the benefits associated with the usage of digital payments, addressing challenges and risks, and fostering collaboration among stakeholders. By implementing these recommendations, stakeholders can encourage more youth population to adopt digital payment technology, which in turn will contribute to a cashless economy and digital financial inclusion of the youth demographic.

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