

Critical Factors Determining Digital Payment User's Adoption and Preferences: An Empirical Study

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ABSTRACT

Digital India increased the use of mobile and internet which aids to the exponential growth in the platform of digital payments. This transformation towards digital payments created more transparency in transactions and more speedier in transactions which created a powerful economy. In recent months, many changes have taken place in the payment system like digital wallets, UPI and BHIM apps for smooth shift to digital payments. The objective of this research paper is to study the impact challenges on the digital payment system. The present paper focuses on the analysis of the adoption level of these digital payment systems by customers and the factors relating to their challenges. Primary data was collected from 201 respondents in Bhubaneswar City. The collected data through the questionnaire were analyzed statistically and it was concluded that, there is no significant perception level changes is marked across male and female groups.

Key Words: Digital payments, UPI, E-Payments, online payments, wallet

INTRODUCTION:

In today's rapidly evolving technological landscape, the way the users manage their financial transactions has undergone a rapid transformation. The advent of digital payment systems has revolutionized the traditional modes of monetary exchange, offering convenient, secure, and efficient alternatives to conventional methods. This paper has to considering the realm of digital payment systems, exploring their significance, impact, challenges, and potential future developments.

Digital payment refers to the electronic transfer of funds between individuals, businesses, or other entities. It eliminates the need for physical currency or checks by facilitating transactions through various electronic channels. With the advancement of technology and the widespread use of the internet, digital payment methods have become increasingly popular and have revolutionized the way we conduct financial transactions. The concept of digital payments encompasses a range of methods, including credit and debit cards, mobile wallets, online banking, peer-to-peer (P2P) transfers, and cryptocurrencies. These methods offer convenience, speed, and security, making them preferable alternatives to traditional cash-based transactions.

Digital payments are of convenience. With just a few clicks or taps on a smartphone, individuals can make purchases, pay bills, transfer money, or donate to charities from anywhere, anytime. This convenience is particularly beneficial for e-commerce, where customers can complete transactions swiftly without the need for physical presence. Digital payments also provide enhanced security compared to traditional payment methods. Encryption technologies and authentication measures help protect sensitive information, reducing the risk of fraud and identity theft. Moreover, digital payment platforms often offer transaction monitoring and notifications, enabling users to track and review their financial activities in real-time.

The rise of digital payments has significantly impacted various sectors of the economy. Businesses, both large and small, have embraced digital payment solutions to streamline their operations and provide better customer experiences. For example, retailers have adopted contactless payment methods, such as mobile wallets and near-field communication (NFC) technology, to expedite transactions and reduce wait times for customers.

Furthermore, digital payment methods have facilitated financial inclusion by enabling individuals who previously had limited access to banking services to participate in the formal economy. Mobile payment platforms have played a crucial role in providing financial services to unbanked or underbanked populations, particularly in developing countries.

However, despite the numerous advantages, digital payments also come with certain challenges. Issues like data breaches, cyber-attacks, and technical glitches pose risks to both individuals and businesses. Moreover, not everyone has access to the necessary technology or reliable internet connectivity to fully participate in digital payment systems, which can create disparities in financial access. In a nutshell, digital payment methods have revolutionized the way the users handle financial transactions. With convenience, speed, and enhanced security, these methods have gained popularity worldwide. As technology continues to advance, digital payments are expected to further evolve, offering new opportunities and challenges in the realm of financial transactions.

LITERATURE REVIEW:

A Study on Digital Payment research has adopted and modified the traditional Technological adoption model like TAM, UTAUT, UTAUT2 by using the factors such as trust, security/privacy, incentives, interoperability. The Prediction of Intention to adopt mobile, account to account system, UPI were achieved by Performance expectancy (Perceived usefulness), effort expectancy (ease to use) (Vedala,2025; Razi-ur-Rahim,2024). The adoption of mobile payment was possible due to the different empirical model with the addition of social influence and facilitating condition (infrastructure, merchant adoption, device/data access) is the recent reviewed, which got identified (Valencia-Arias et al.,2025)

The utility and reduction of Search or switching cost was happened due to the adoption of Network effect by consumers and Merchants. The rapid expansion of digital payment and account use happened through Macro-indicator and due to this it reflects and reinforce to level of adoption individually. According to the Report of World Bank's Global Findex2025, the continuous gain in account usage and digital transaction (since 2021) occurred. During August 2025, UPI Crossed more than 20billion transaction for the first time in India, according to NPCI data, where the transaction limit was up to 10lakh (NPCI,2025; Economic Times 2025). Perceived behavioral control and habit formation usually affected by the upward movement of Perceived usefulness and facilitating condition.

On considering the demographic factors like age, digital accuracy, urban residence and contextual moderator like income, which moderate the relationship with younger-digital fluent users. It shows strong effect on hedonic motivation and habit. But the old users relying more on support and trust (Valencia-Arias et. al.2025;Razi-ur-Rahim,2024).The direction of payment flows and Perceived utility by use-case(Platform)category can be changed by institution and the Regulator events and sector specific rule also nudge the preferences (e.g.2025 ban on real money gaming reduced UPI spends on digital goods) (Economic Times ,2025b).

The following factors UTAUT2 drivers (i.e. usefulness, ease, social influence, facilitating conditions, habit), Trust, security/privacy, perceptions, incentive structures and value added services; interoperability and merchant acceptance; enabling policies and ecosystem scale that strengthen the network effects. The integration of UTAUT2 with trust/security, incentives/value added variables and ecosystem features (i.e. interoperability and acceptance density) taken as a model for an Empirical study and are taken in Literature Review, which is aligned with the evolvement of payment landscape.

Perceptions of Security controls, platform reputation and transparency are given shape to user trust, which in turn reduces perceived risk and strengthen the continuance intention and loyalty(Al-Shamali et al.,2025;Bajwa et al.,2025) considering as focus of both Trust and Perceived security .When usefulness is High silent Privacy concerns undermine (e.g. Fear of personal data leakage)intention on adaption ,when usefulness is high, which shows that risk-mitigation messaging and visible protection are vital(Research Gate synthesis ,2025;Aljaradat et al.,2025).

Financial service providers must understand the significance of customer satisfaction by enhancing perceived usefulness and perceived experience towards digital payment apps (beura et al., 2023).

Times of India, (Sept 2022) reported that Unified Payments Interface, also known as UPI, a popular platform for mass retail payments, reported another record-breaking month in August. According to information provided by the National Payments Corporation of India (NPCI). the platform handled 6.57 billion (657 crore) transactions for a total of

10.73 trillion rupees. UPI transactions increased by roughly 68% in value over the previous year while increasing by 85% in volume.3. BFSI, Nov 2021. UPI.

Manish Singh, Techcrunch, (Sept 2022) concluded that, UPI has surpassed all other online payment methods in India in just six years. In the second-largest internet market in the world, the mobile electronic payments system was used for more than 6.57 billion transactions during August 2022.

K.SumaVelly and K.HemaDivya-(2018): In their study on “Digital Payment in India with Perspective of Consumer Adoption” they said that due to demonetization it’s resulted tremendous growth in digital payments. These transformations make a great change toward digital payments and make a more transparency in transactions which empowers the economy of the country. The purpose of this study is to get a research the impact of demonetization on adoption of online payments and digitization of payment system to analyses the level of adoption of digital payment system by the customers’ E-payment system are important mechanism used by the individual and organization as a convenient way of making payments over the internet and at a same time a gateway to technological advancement. RaghvendraNayak (2018): It was a conceptual study on “Digitalisation of Banking-Issues and Challenges in Rural India”. He studied that the campaign of digital India made a noticeable effect on banking sector of India. Even the development in digitalization still India lagging behind in the implementation of digitalization to banking sector and It is true the digitalization of banking will bring revolution in the Indian economy but it is still needed to implement digital services in rural areas also. It’s related with many conceptual issues and challenges in implementing digitalization of rural banking areas. It studied about the efficiency of banking and enable smoother transactions. It helps to found the factors which enable fast and furious changes in banking sector in adopting digitalization special references to rural are Rajiv Ranjan Singh and AnanditaBagchi (2018): They publish a paper no-351 on demonetization “A golden opportunity for widening the taxpayer base”. In their paper they recommended to department act with a focus on the customer and in a non-instructive and tax payer friendly manner with the effect of demonetization wider the area of tax payer. All transactional data received since 201 the large amount of historical data and third party available helps to action by government should be based on proper data analysis since six years after March 2017. RenitaD’souza (2018) - He publish his paper on “digitalIndia Getting Incentives Rights” He publish a key chapter in fourth industrial revolution (4IR) such as production and management, which is an outcome of leveraging technology and digital innovation in consider the case of virtual or digital markets. These markets have made physical space constraints redundant and eliminated the need to visit sops on ground. Today it is the time for digital transactions. Digital transaction is positively correlated with the level of education and consumer income. The size of the informal economy of a nation reflects the productivity of cash use lock in persistent cash asthe inevitable status queue. There are no shortcuts to becoming irrelevant in this economy banks and other financial institutions will have to consider reconfiguring their business processes and functioning with Smartphone’s. Dr.S.Manikandan And J.MaryJayakodi (2017) - In their research paper ‘An Empirical Study On Consumer Adoption Of Mobile Wallet With Special Reference To Chennai City’ they found that in present world smart phones play an important role in the daily life of people. He found smart phones are made as devices with advancement of technological which were used as money transactions or payments by using application installed in phones by the users of mobile. For this they prepared a structural questionnaire collect data from 150 respondents for finding the factors affecting the consumer for the adoption and usage of mobile wallet to analyses to get the result for their research. After the results finding they clear the online payments were altered by mobile wallet. NaincyPrajapati and Sanjeev Kumar Singh (2017) - The research scholars describe in their study on ‘Impact of Demonetization on Online Transactions.’ That move of demonetization gives a new path to the Indian economy going towards the digitaleconomy. India becomes a growth country after demonetization with a potential for the companies deals in E- Commerce. The cash crunch in the economy cut down the cash on delivery order in the country and increase the online payments. After all this positive effects people are facing many problems during the cash crunch. This study finds out the effects of online transactions during the period of demonetization. India is country which is a cash dominant country, demonetization is great cause of facing problems in India due to suddenly a huge transformation from cash to non cash. P.PaniBhaskar and D.Prasanna Kumar (2017): In his paper ‘Affect of Demonetization on E-Commerce’. The authors clear about the E-Commerce ecosystem. Before the demonetization in India situation of E-Commerce is the accurate flat form for the development for online business but the situation of demonetization leads the people to adopt the online transactions or net banking in their day to day life. For urban areas E-Commerce is not a new technology but in urban it’s necessary of

loyalty towards online business. According to the authors the demonetization in India encourage and insist the Indian people to increase or start the onlinetransaction instead of using traditional method of payment trough cash. Before demonetization E-Commerce companies have huge payment on cash on delivery which decrease after demonetization it will provide a positive change in ECommerce. Piyush Kumar And Dr. DhaniShankerChaubay (2017): In his research paper ‘Demonetization and Its Impact ON Adoption of Digital Payment’ researchers explain the opportunities issues and challenges in adoption of digital payments after demonetization these digital payments changed the economic condition of Indian government. After demonetization E-payments become a day to day part of Indian peoples. These issues provide a research agenda to encourage the researcher to explore new knowledge. Mobile payments are also adopted after demonetization by Indian peoples. Mobile banking are also adopted which provide by the banks which allows the customers to doing transactions with their mobile devices.

Economic Survey 2016-2017 In India: The government of India the ministry of finance the department of economic affairs economic division on January 2017 present on economic survey 2016-2017. In this report they also include the demonetization and its effect on economy. Demonetization is a radical, unprecedented step with short term cost and long term benefits. Fast demand driven, demonetisation, further tax reforms, including bringing land and real estate into the GST, reducing tax rates stamp duties. In starting the demonetization was fourfold to curb corruption, counterfeiting the use of high denomination notes for terrorist activities and especially the accumulation of black money which generated by income that has not been declared to the tax department.

The gap is marked on the challenges on digital payment in the city of Bhubaneswar and no where any research has been made on gender differences .

SCOPE AND RELEVANCE OF THE STUDY:

The challenges in digital payments have a wide scope and significant relevance in today's financial landscape. They impact various stakeholders, including individuals, businesses, financial institutions, and governments. Understanding the scope and relevance of these challenges is crucial for developing effective strategies and solutions. These are taken as :

- **User Perspective:** From a user's standpoint, challenges such as security threats and privacy concerns are highly relevant. Users need assurance that their financial transactions are protected, their personal information is secure, and their privacy rights are respected. User education and awareness play a crucial role in mitigating risks and building trust in digital payment systems.
 - **Business Perspective:** Businesses face challenges related to the security and reliability of digital payment systems. They need to ensure that their payment infrastructure is secure to protect customer data and maintain trust. Additionally, businesses must address interoperability issues to accept payments from various platforms and cater to customer preferences.
 - **Financial Institutions:** Banks and financial institutions are responsible for implementing robust security measures to safeguard customer funds and data. They face challenges in detecting and preventing fraud, ensuring compliance with regulatory requirements, and managing risks associated with digital payment systems.
 - **Government and Regulatory Bodies:** Governments play a vital role in establishing regulatory frameworks that protect consumers, ensure fair practices, and prevent illicit activities in digital payments. They face challenges in formulating effective regulations that strike a balance between innovation, consumer protection, and financial stability.
 - **Global Relevance:** The challenges in digital payments extend beyond individual countries, as digital transactions occur on a global scale. Interoperability and standardization become crucial for seamless cross-border transactions and international payment systems. Cooperation among countries and international organizations is essential to address these challenges effectively.
 - **Economic and Social Impact:** Overcoming challenges in digital payments has significant economic and social implications. Digital payments can enhance financial inclusion, promote economic growth, and provide opportunities for underserved populations. Addressing challenges related to accessibility, affordability, and technological literacy can help bridge the digital divide and ensure equitable participation in the digital economy.
- Technological Advancements:** Rapid technological advancements continually reshape the digital payment landscape. Emerging technologies such as blockchain, artificial intelligence, and biometrics present both

opportunities and challenges. Adapting to these advancements while addressing their associated risks is essential for the future of digital payments.

Digital payment Challenges: The challenges in digital payments have a broad scope and profound relevance. They impact users, businesses, financial institutions, governments, and the global economy. Addressing these challenges is crucial for fostering trust, ensuring security, promoting financial inclusion, and harnessing the full potential of digital payment systems in our increasingly digitized world.

Digital payment systems have revolutionized the way it is managed the financial transactions, offering convenience, speed, and security. However, alongside their advantages, these systems also present a range of challenges that need to be overcome for their successful implementation and widespread adoption.

One of the primary challenges of digital payments is security.

With the increasing prevalence of cybercrime, there is a constant threat of data breaches, hacking, and identity theft. Financial institutions and users alike must implement robust security measures to protect sensitive information and ensure the integrity of transactions.

Privacy concerns also pose a significant challenge.

Digital payment systems collect vast amounts of personal data, raising questions about how this information is stored, used, and shared. Striking a balance between utilizing customer data for transactional purposes and respecting privacy rights is a complex task that requires careful consideration.

Moreover, the **interoperability of digital payment** systems is a challenge that needs to be addressed. With multiple payment platforms and methods available, ensuring seamless compatibility between different systems is crucial. Standardization of protocols and collaboration among industry stakeholders are necessary to facilitate smooth and convenient transactions for users.

Another challenge lies in **ensuring accessibility and inclusivity**. While digital payments have the potential to enhance financial inclusion, certain populations, such as those in underserved areas or individuals with limited technological literacy, may face barriers to participation. Bridging the digital divide and providing equal access to digital payment systems for all individuals is crucial for achieving inclusive economic growth.

Additionally, **user education and awareness** play a significant role in the successful adoption of digital payment systems. Many users may not be familiar with the intricacies of digital transactions or may fall victim to scams and fraudulent activities. Educating users about safe practices, promoting financial literacy, and providing user-friendly interfaces are essential to build trust and confidence in digital payment systems.

Regulatory and legal challenges are also inherent in the digital payment landscape. Governments and regulatory bodies must develop appropriate frameworks to address issues such as consumer protection, fraud prevention, and dispute resolution. Striking the right balance between fostering innovation and ensuring regulatory compliance is crucial for maintaining trust in digital payment systems.

Major Challenges in digital Payment adoption :

1. **Security Risks:** Digital payment systems are vulnerable to security breaches, hacking, and fraud. Cybercriminals continually develop sophisticated methods to exploit vulnerabilities and gain unauthorized access to sensitive financial information. If adequate security measures are not in place, individuals and businesses can become victims of identity theft, unauthorized transactions, or data breaches.
2. **Dependency on Technology:** Digital payments rely heavily on technology infrastructure, including internet connectivity, mobile devices, and payment processing systems. Any disruptions in these systems, such as power outages, network failures, or technical glitches, can hinder transactions and cause inconvenience for users. Additionally, individuals who are not familiar with or do not have access to the necessary technology may face difficulties in participating in digital payment systems.

3. Limited Acceptance: While digital payment methods are becoming more prevalent, they may still face limited acceptance in certain locations or businesses. Some smaller retailers or service providers may not have the necessary infrastructure or capability to accept digital payments, forcing individuals to carry cash or seek alternative payment methods.

4. Transaction Fees: Certain digital payment platforms or service providers may charge transaction fees or processing fees for using their services. These fees can add up, especially for businesses that process a large volume of transactions. Additionally, international transactions or currency conversions can attract higher fees, which may be a deterrent for some users.

5. Lack of Anonymity: Digital payments leave a digital trail of transactions, which can impact user privacy. While financial institutions and payment processors have privacy policies in place, individuals may still have concerns about the collection and use of their personal data for targeted marketing or other purposes.

6. Fraud and Scams: The digital nature of payments provides opportunities for fraudsters to engage in various scams and phishing attempts. Unsuspecting individuals may fall victim to fraudulent emails, fake websites, or deceptive practices, resulting in financial losses.

7. Accessibility Challenges: Despite the increasing accessibility of digital payment methods, certain populations, such as the elderly, low-income individuals, or those in remote areas, may face barriers in accessing and using digital payment systems. Lack of technological literacy, limited internet connectivity, or the absence of bank accounts can hinder their participation in digital payment transactions.

It's important to note that while these disadvantages exist, many of them can be mitigated through proper security measures, user education, and regulatory frameworks. It's crucial for individuals, businesses, and policymakers to be aware of these disadvantages and take appropriate steps to address them effectively. The challenges in digital payments have a broad scope and profound relevance. They impact users, businesses, financial institutions, governments, and the global economy.

Addressing these challenges is crucial for fostering trust, ensuring security, promoting financial inclusion, and harnessing the full potential of digital payment systems in our increasingly digitized world.

OBJECTIVE OF RESEARCH

The comprehensive study of Digital Payment Methods are based on the objective of:

1. Understanding the factors that underpin payment method preferences, how citizens of the Bhubaneswar area use their preferred payment methods and the key drivers that support their payment habits.
2. Providing the differences across gender types perspective on digital payment methods, as well as more profound insights into the drivers of and perception on barriers to potential adoption of new digital payment methods among different gender groups .
3. Exploring and identifying features which would make a new digital payment method attractive and prompt adoption and acceptance.

RESEARCH METHODOLOGY:

User demographics of Digital Payments :

This section provides an overview of the geographical scope of the study as well as a detailed description of the target audience interviewed in Bhubaneswar City

For reasons of comprehensiveness as well as to ensure that a full spectrum of diverse opinions is collected, the qualitative design covered all areas including city peripheral areas of Bhubaneswar.

1 . The selected target audiences, are outlined below.

1. The general public had the following profile: citizens or residents living for one or more years in Bhubaneswar; aged from 20 to 65 and above ; a mix of different levels of educational attainment (ranging from primary school to university degree or higher); feeling positive, neutral or slightly negative about the digi-payments; in a range of occupations; using a

mix of payment methods (e.g. cards, mobile payment apps, online payment methods, smart devices, banking apps, direct debit, credit or bank transfers, cash) with varying intensity.

2. The tech-savvy had the following profile:

citizens or residents living with a feeling positive, neutral or slightly negative about the digital payments using the internet every day or almost every day for various activities, on a range of devices. A key criterion was the regular use of cards, mobile payment apps, smartwatches, banking apps, credit transfers and other forms of online payment.

Methodological Overview :

The methodological approach consisted of a series of qualitative exploratory steps, with a combination of methodologies, each of which met specific research objectives

The research proceeded in two steps:

Step 1. First, online communities comprising members of the general public²⁰ were studied to explore and understand payment habits, attitudes and preferences, in particular regarding digital payment methods.

Second, the specificities of an ideal new digital payment method, referred to as the new "digital wallet", were explored.

Third, the online communities established a baseline knowledge of the current understanding of a digital payment.

Step 2 involved focus groups comprising members of the general population drawn from online communities, focus groups of the tech-savvy and merchants recruited using traditional qualitative techniques and telephone interviews with members of the unbanked, underbanked and offline population.

The focus groups explored in detail specific features of a new digital payment method, by means of scenarios and a conceptual description of a digital wallet. Focus groups and interviews with specific targets (tech savvy, merchants, unbanked, underbanked and offliners) explored the relevance and importance of these features from their particular perspectives in order to establish what would drive acceptance of a new digital payment method for these profiles.

Establishing a baseline for current knowledge and understanding of digital bank currencies and a digital payment system., this paper presents insights gathered from qualitative research, No conclusions can be drawn with regard to the representativeness of these results for the population as a whole. As for any qualitative research, the findings are communicated in descriptive terms and the use of proportions and percentages is avoided.

DEMOGRAPHIC STUDY:

Table-1: Domicile & Age Cross matrix test

Domicile		age				Total
		less than 25 years	26-40	41-60	60& above	
Urban	Count	15	27	5	0	47
	% within domicile	31.9%	57.4%	10.6%	0.0%	100.0%
Semi-urban	Count	20	9	3	18	50
	% within domicile	40.0%	18.0%	6.0%	36.0%	100.0%
Sub-Urban	Count	0	37	8	0	45
	% within domicile	0.0%	82.2%	17.8%	0.0%	100.0%
City	Count	16	14	27	3	60
	% within domicile	29.3%	34.1%	36.6%	0.0%	100.0%

Total	Count	51	87	43	21	202
	% within domicile	25.2%	43.1%	21.3%	10.4%	100.0%

Table –1 reveals the **Cross matrix test** of age and domicile of the Users of digital payment. It indicated the cross sectional relationship in both numbers and percentage wise. The domicile categorization is depicted as City, semi-urban and urban and sub urban area wise. The age has been categorized as : below 25 years, 26-40 years, 41-60 years and more than 61 years . This present study revealed that maximum respondents i.e. 86 are in the age group of 26-40 years ,where as the lowest among all are 21(10.4%) , which are in the age group of more than 61 years . CityUsers of digital payment are more , i.e. 60 than from other areas . Further, the Users of digital payment are also more in sub urban and semi-urban areas of Bhubaneswar city . That indicates that maximum users are from 26-40 age followed by less than 25 years and maximum are from city areas followed by Semi-Urban areas.

Table-2: **Domicile& Gender Cross matrix test**

			gender		Total
			Male	Female	
Domicile	Urban	Count	44	3	47
		% within domicile	93.6%	6.4%	100.0%
	Semi-urban	Count	41	9	50
		% within domicile	82.0%	18.0%	100.0%
	Sub-Urban	Count	40	5	45
		% within domicile	88.9%	11.1%	100.0%
	City	Count	59	1	60
		% within domicile	97.6%	2.4%	100.0%
	Total	Count	184	18	202
		% within domicile	91.1%	8.9%	100.0%

Table –2 reported the cross matrix test of Gender and domicile of the Users of digital payment. It indicated the cross sectional relationship in both numbers and percentage wise. The domicile categorization is depicted as City, semi-urban and urban and sub urban area wise. The gender has been categorized as : male and female category . This present study revealed that maximum respondents i.e. 184 are in the gender group of male , where as the lowest among all are 18 , which are females. CityUsers of digital payment are more in male category , i.e. 59 than from other areas . Further, the Users of digital payment are also more in other areas of Bhubaneswar city and periphery regions.

Table-3: **Domicile & Qualification Cross matrix test**

			Qualification					Total
			HSC	Graduate	Post-Graduate	Professional & Technical	Any other degree	
domicile	Urban	Count	10	21	0	9	7	47

	% within domicile	21.3%	44.7%	0.0%	19.1%	14.9%	100.0%
Semi-urban	Count	19	19	5	0	7	50
	% within domicile	38.0%	38.0%	10.0%	0.0%	14.0%	100.0%
Sub-Urban	Count	3	39	0	3	0	45
	% within domicile	6.7%	86.7%	0.0%	6.7%	0.0%	100.0%
City	Count	14	14	0	30	0	60
	% within domicile	23.3%	23.3%	0.0%	50.0%	0.0%	100.0%
Total	Count	46	93	5	42	16	202
	% within domicile	22.8%	46.0%	2.4%	20.8%	7.9%	100.0%

Table –3 indicates the cross tabulation of educational qualification and domicile of the Users of digital payment. It indicated the cross sectional relationship in both numbers and percentage wise. The domicile categorization is depicted as City, semi-urban and urban and sub urban area wise. The educational qualification has been categorized as : HSC, Graduate, Post-Graduate, Professional & Technical Any other degree . This present study reported that maximum respondents i.e. 93 are graduates followed by HSC and Professional degree respondents . The lowest among all are marked on Post graduate qualification , which are only 5 among all the respondents type.

Exploratory factor analysis :

Government of Odisha as well as government of India both are trying to facilitate and orient the Users of digital payment in different times during the use period to achieve a certain level of success from this technical use . So , the questions were asked to the Users of digital payment to measure the perception level basically on challenges . These challenges includes 10 important questions and are mentioned below as :

1. Privacy concerns
2. Interoperability of digital payment
3. Ensuring accessibility and inclusivity
4. Education and awareness
5. Regulatory and legal challenges
6. Security risks
7. Dependency on technology
8. Limited acceptance
9. Transaction fees
10. Fraud and scams

Table-4 : Reliability test on Challenges on using digital payments

Cronbach's Alpha	N of Items
.940	10

Table- 4 reported the reliability test (Cronbach's Alpha) of “Challenges on using digital payments” in the digital payment system of banking sector which is performed to check the reliability of questions (10) or items that constitute dimensions. It resulted in an overall score of 0.940 indicating internal consistency of the items and the reliability of responses can be positively considered as accepted for further analysis.

Table - 5 showing KMO and Bartlett's Test for Challenges on using digital payments

Bartlett's Test of Sphericity	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.905
	Approx. Chi-Square	172.171
	df	9
	P-Value	0.000

Table- shows two tests that indicate the suitability of data on Challenges on using digital payments for structure detection. The Kaiser-Meyer-Olkin Measure of Adequacy indicates that the proportion of variance in variables of alignment that might be caused by underlying 10 factors. The value indicate high, i.e. 0.905 (close to 1.0), which indicate that this factor analysis may be useful with input data. Further, Bartlett's test of sphericity tests the correlation matrix, which indicates that variables are unrelated and suitable for structure detection and here the value is absolutely zero significance value. So, it indicates that factor analysis may be useful with input variables on Challenges on using digital payments.

Table –6 Showing communalities on Challenges on using digital payments

		Initial	Extraction
Q1	Privacy concerns	1.000	.857
Q2	Interoperability of digital payment	1.000	.873
Q3	Ensuring accessibility and inclusivity	1.000	.894
Q4	Education and awareness	1.000	.751
Q5	Regulatory and legal challenges	1.000	.735
Q6	Security risks	1.000	.875
Q7	Dependency on technology	1.000	.765
Q8	Limited acceptance	1.000	.710
Q9	Transaction fees	1.000	.862
Q10	Fraud and Scams	1.000	.848

Extraction Method: Principal Component Analysis.

Table-6 indicates the results of initial values as well as the extraction values of each individual factor of “Challenges on using digital payments” help towards the development, growth and using of digital payment in Odisha . The factor analysis has been applied through principal component analysis method for 10 major variables . The extraction values are marked above 0.700 in all these cases and can be loaded in variance analysis. So, all these factors are most responsible factor for this cause more significantly.

Table –7: Total Variance on Challenges on using digital payments

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.584	15.842	15.842	1.584	15.842	15.842
2	1.476	14.764	30.607	1.476	14.764	30.607
3	1.271	12.715	43.321	1.271	12.715	43.321
4	1.129	11.286	54.607	1.129	11.286	54.607
5	.982	9.818	64.425			
6	.946	9.459	73.884			
7	.749	7.489	81.374			
8	.707	7.070	88.444			
9	.585	5.851	94.294			
10	.571	5.706	100.000			

Extraction Method: Principal Component Analysis.

Table –7 indicates the total variance including the Eigen values and Extraction Sums of Squared Loadings. The total Initial Eigen values are marked above 1.00 in four factors out of ten factor variables on “Challenges on using digital payments” squared Loadings. So there is no difference in between the assessment and 55 percent loss of data is marked due to this change, which is marked from the cumulative percentage of Extraction Sums of Squared Loadings. The four factors responsible for most significant for “Challenges on using digital payments” and most satisfied factors remarked by the respondents, which could be identified from the table given below i.e. component matrix table.

Table -8 showing Component Matrix for “Challenges on using digital payments”

		Component			
		1	2	3	4
Q1	Privacy concerns	0.709	0.108	-0.051	0.304
Q2	Interoperability of digital payment	0.523	0.235	0.119	0.065
Q3	Ensuring accessibility and inclusivity	0.398	0.598	-0.221	0.022
Q4	Education and awareness	0.109	-0.586	0.013	0.135
Q5	Regulatory and legal challenges	-0.09	0.501	0.341	-0.278
Q6	Security Risks	0.525	0.326	0.644	-0.039
Q7	Dependency on Technology	-0.43	-0.151	0.535	0.238
Q8	Limited Acceptance	0.045	0.286	0.526	-0.464
Q9	Transaction Fees	-0.531	-0.057	0.278	0.576
Q10	Fraud and Scams	-0.16	0.494	0.185	0.575

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

Component matrix table -8 highlights the results of the each components of “Challenges on using digital payments” in matrix format , where in the first column , more value is marked more concern on Q1: Privacy concerns (0.709) ,Q2,Interoperability of digital payment(0.523), Q3:Ensuring accessibility and inclusivity(0.398) and Q6 Security Risks (0.525). Similarly, in other columns, the value against these variables also indicate positive and

significant. So it is concluded by observing the four columns, the respondents are more conscious on these points than others.

Govt. provides information time to time for new products/policies, However ,other factors indicate a less value , which means a less importance on impact assessment for “users of digital payments ”, for which the Users of digital payment expressed their negative perception .So , government must focus these points to upgrade the standard of wallet and digital bankers to be more protective and trust in transactions in using . The four significant factors that are identified from the above analysis , has been further tested through Anova to measure the differences across the gender types in understanding the challenges .

DIFFERENCES IN GENDER

Hypothesis - 01 : There is no significant differences across gender on the perception of challenges

Table-9: Test of Descriptive results (Gender wise)

Significant factors /Gender		No. of respondents	\bar{X}	δ	SE
Q1	Male	184	2.15	1.489	.110
	Female	18	1.72	1.018	.240
	Total	202	2.11	1.456	.102
Q2	Male	184	2.57	1.645	.121
	Female	18	2.00	1.283	.302
	Total	202	2.51	1.621	.114
Q3	Male	184	1.90	1.237	.091
	Female	18	2.17	1.339	.316
	Total	202	1.93	1.246	.088
Q6	Male	184	2.24	1.510	.111
	Female	18	1.28	.575	.135
	Total	202	2.15	1.477	.104

Table--9 reported the results of descriptive analysis of “Challenges on using digital payments” where four variables are indicated significant which were identified from factor analysis . in this analysis of cross sectoral study of digital payment and its challenges in both the gender types , i.e male and Female groups have been presented .

In both the groups, a total of 202 customers have been considered and 184 for male and 18 for female groups .In all the four questions mean score represents below 3.0 means all the customers in both the types have the positive perception on Challenges on using digital payments.

Table- 10: Test of Anova

		Sum of Squares	df	Mean Square	F	Sig.
Q1	Between Gender	.227	1	.227	.132	0.717
	Within Groups	345.060	200	1.725		

	Total	345.287	201			
Q2	Between Gender	.663	1	.663	.622	0.431
	Within Groups	213.060	200	1.065		
	Total	213.723	201			
Q3	Between Gender	3.573	1	3.573	1.591	0.209
	Within Groups	449.106	200	2.246		
	Total	452.678	201			
Q6	Between Gender	1.105	1	1.105	.936	0.334
	Within Groups	236.162	200	1.181		
	Total	237.267	201			

Table-10 presented ANOVA and is reported that, there is no significant difference across the Male and female type of customers irrespective of their age, education and domicile, where the significance value indicated $P \geq 0.05$ in all the four significant questions identified in the Factor analysis. There is a direct impact on perceiving the challenges, but in other cases, which have been marked of similar opinion as observed from the above results. So, the service providers must adopt flexibility in their policy to motivate the group of customers as mostly it is marked on accessibility and inclusivity on using digital payments.

Test of Hypothesis -01: There is no significant differences across gender types on the level of perception on challenges. So here the hypothesis is accepted.

CONCLUSION :

Users of digital payment are also more in sub urban and semi-urban areas of Bhubaneswar city. That indicates that maximum users are from 26-40 age followed by less than 25 years and maximum are from city areas followed by Semi-Urban areas. Users of digital payment are also marked more in other areas of Bhubaneswar city and periphery regions and city. From education point of view, the lowest among all are marked on Post graduate qualification, which are only 5 among all the respondents type. The result concluded with the factors like : Privacy concerns, Interoperability of digital payment, Ensuring accessibility and inclusivity) and Security Risks out of 10 factors on challenges that are asked to them. Further it is concluded with there is no significant differences across gender groups on the challenges perceived by respondents.

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