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A Comparative Study on Feasibility of Digital Payments in Rural India: Special Reference to Punjab

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Abstract

Financial activities have changed a lot because of digital technology, but India's rural areas are still taking a while to get used to it. This research looks at digital payments in rural Punjab to find problems and chances for their widespread use. Digital payments in Majha, Malwa, and Doaba of Punjab, are the center of the study. For this, first-hand information was gathered from rural Punjab. Random sampling is used to get information about rural consumers. The sample size is 400, with four people from each of Punjab's 100 towns taking part. More and more people are using digital payment ways, but they have a lot of problems. Not having access to the internet, not knowing how to use technology, and not wanting to change are big problems. But programs run by the government, like internet India, can make internet infrastructure better and teach people more about money. Financial institutions and tech companies should make answers that fit the needs of rural areas. The suggestions in this study can help policymakers, banks, and tech companies make digital payments more popular and useful in rural areas. Dealing with problems and taking advantage of chances can make it easier for people in rural Punjab to get access to financial services and take part in the economy. This could set an example for other rural Indian areas. The study stresses how important it is to keep in touch with people in rural areas to learn about their wants and needs. The gap in the use of digital payments between cities and rural places can be closed by teaching people how to use technology and improving internet access. The government, banks, and tech companies need to work together to speed up the digital payment revolution and make it easier for people in rural areas to use banking services. India's country policies and plans can be influenced by what Punjab has taught us.

Keywords: Digital Payments, Rural, Digital Infrastructure, Financial Literacy, Financial Services.

Introduction

Digital or electronic payments facilitate the transfer of value between payment accounts using a digital device or channel. This concept may encompass bank transfers, mobile money, QR codes, credit cards, debit cards, and prepaid cards. Digital payments might be predominantly or entirely digital.

Since 1952, the Indian government has spearheaded rural development through a series of initiatives. Given that over 65% of Indians reside in and rely on agriculture, the industry is crucial to the economy. Cash dominated rural India before to demonetization and continues to do so, as rural inhabitants engage in agro-industries and conduct daily cash transactions (Sheetal Thomas et al., 2017). India initiated its journey towards a cashless economy by introducing ATMs in Kolkata in 1987. Following the government's demonetization at the conclusion of 2016 and the introduction of UPI, BHIM, BBPS, mobile wallets, and digital payment systems, the Indian government prioritized the transition to a cashless economy from 2014 to 2016. Counterfeit currency, the misuse of cash to finance illicit activities and terrorism, and technological advancements are some of the justifications for governmental demonetization and the transition to a cashless economy. India possesses the largest cash-based economy globally; yet, it requires a transition to a cashless or digital economy to remain competitive internationally. Digital alternatives incur expenses due to users' reluctance to experiment with novel options and their insufficient technical proficiency for digital payments (Creehan, 2018).

The Indian government envisions a dream that can be realized when rural India is encompassed. Nonetheless, insufficient infrastructure, digital illiteracy, rural economies, and customer views necessitate further focus (Sheetal Thomas et al., 2017). Research indicates that the digital economy will prosper when rural populations completely embrace e-commerce, online shopping, plastic currency, and alternative non-cash payment methods (Srihari Kulkarni et al., 2019). Research indicates a significant transformation following demonetization. Digital payments impose a burden on rural populations, prompting educated and technologically adept individuals in rural and semi-urban regions to adopt cashless transactions. Fintech firms promptly supply retailers with card readers and scannable QR codes/devices, assisting the government in advancing a cashless economy.

The actuality of Digital India diverges from the aspiration due to impediments. These encompass cyber fraud, privacy concerns, online payment issues, and inadequate internet connectivity in rural and distant India, necessitating governmental security and intervention. Should the Indian government diminish digital payment prices, furnish shops with complimentary swipe machines, and initiate digital payment education initiatives for rural populations to alleviate their apprehension towards technology, India would emerge as the preeminent digital economy globally inside a few years. India's digital economy will flourish in the coming years due to the adoption of cashless payments by increasingly educated and technologically adept generations (Srihari Kulkarni et al., 2019). The majority of human endeavors have advanced in the 21st century. The most significant aspect is the information and communication technology system, which has rapidly transformed the world into a global village, enabling interaction among individuals of diverse races, social backgrounds, and nations (Adeya, 2001; Dahawy et al., 2005). Innovative technologies are transforming corporate operations and enhancing service delivery in almost all customer service sectors (Oginni et al., 2013; Kwashie, 2012). The prolonged commercial utilization of technology has resulted in several ancillary services. Digital payment services facilitate electronic transactions without the use of cash (Hamid & Cheng, 2013). The research revealed that 53% of 800 million online purchases in 2013 utilized credit or debit cards. Approximately 32% of transactions were conducted using debit cards, while 21% utilized credit cards. Approximately 60% of digital transactions were allocated to airline and train tickets, accommodations, and travel packages. E-commerce and financial services, including DTH and mobile recharge, tax filing, insurance premium payment, and utility bill payment, were also noted (IAMAI, 2014). This service transformed the company's handling of labor, transaction, and documentation expenses. It facilitates corporate market expansion because to its user-friendliness and superior speed compared to manual processing. Considering the intriguing advancements and the forecast of significant growth in digital payments over the forthcoming years, it is pertinent to analyze Indians' awareness, utilization, and perception of digital payments. The Boston Consulting Group and Google (2016) forecast that digital payments will prevail in Indian commercial interactions. These findings will enhance the adoption of digital payments.

In recent years, digital payments have revolutionized financial transactions in India. These advances have facilitated financial transactions and bolstered the government's objective of a cashless economy. Digital payments are extensively embraced in urban areas, although their feasibility in rural India remains contentious. This study evaluates the viability of digital payments in rural India, with an emphasis on Punjab. The socioeconomic nature of rural India poses distinct obstacles and opportunities for the adoption of digital payment systems. This study examines these technologies and their applicability for rural communities utilizing digital payment systems. Punjab serves as an exemplary case study, illustrating the diversity of rural India and providing insights applicable to other regions.

Review Of Related Literature

The literature review forms the main platform of the dissertation as the consequent analysis and future result is based on it. A brief review of the related literature is of huge importance with respect to any research and following are the sources of related literature like-various articles in different journals, books, newspapers & magazine and different sites. In this section, attempts have been made to review the previous studies on digital payments in India in order to identify the existing research gaps and research problem that has been given no attention to identify yet. Below is the review of the studies for the purpose of current study.

Ashish et al. (2020) conducted a study under the title of A Framework of Mobile Banking Adoption in India to explore the factors influencing Indian customers' intention to adopt mobile banking means focused on identifying the key drivers behind mobile banking adoption in India, recognizing its potential in a developing country. In this study, researcher used the extended Technology Acceptance Model (TAM), and collects the data from 203 potential mobile banking users and analyzed data using structural equation modeling. This study determines that perceived usefulness and perceived ease of use, along with subjective norms, personal innovativeness, trust, and self-efficacy, all positively influence the intention to adopt mobile banking. The study highlights that beyond the basic usefulness and ease of use, factors like social influence (subjective norms), personal traits (innovativeness), and confidence (trust and self-efficacy) play a significant role in determining whether Indian customers are willing to use mobile banking.

Shen (2020) conducted the study in rural area of China to find that the use of digital financial services is dependent on digital financial literacy. The increase in use of digital modes of financial transactions has effectively spurred financial inclusion. There is a need to focus on digital financial literacy for effective use of digital financial products and services. Further, results of the study reveal that education level of the individuals is positively related to the use of credit cards and advanced digital financial products like insurance, etc.

Jain (2022) conducted the study to understand the digital financial services in rural areas, their importance, awareness level (literacy rate), usage level opportunities and challenges for adoption of financial digital services. The study opined that government is providing security mechanisms for digital financial transactions and more than millions of individuals have linked their devices (mobile payment mechanisms) with their bank accounts allowing them to make payments using their mobiles. Further the results of the study reveal that the major challenge faced by these apart for connectivity issues and infrastructure is the digital financial literacy.

Godlen et al. (2022) conducted the study to examine the need of digital financial literacy to use financial services through digital devices for making better financial decisions with ease. The study elaborated the that there is need of financial literacy along with digital financial literacy which can create opportunities for training and educational programmes that can provide financial digital literacy to the people to access the fintech (digital financial services) with ease.

Gautam et al. (2022) studied the impact of digital financial technology on the digital literacy rate in India taking poverty as a moderating variable. The study opined that the main reason why people are talking about and the financial institution are focusing on digital financial literacy id due to the evolvement in digital world and people should understand the usage and its benefits to adopt digital financial services in their lives. The results of the study reveal that ATMs and KCC (Kisan Credit Cards) have positive relationship with the financial digital literacy the findings of the study indicate that people in rural and urban India should have basic to advanced financial digital literacy as per their requirements to take advantage of the digital financial transactions and various digital financial products.

Ray (2022) opined that people consider financial literacy and digital financial transactions being a very complex situation especially in case of rural regions. Without the knowledge of financial products and services people find it difficult to manage money in their hands and find it difficult to complete digital financial transactions. Further, the author opined that it becomes very difficult for the rural people manage their funds due to improper planning. Digital financial literacy is the major factor that will lead to the adoption of digital financial services and products for better management of their finances.

Srivastava (2022) opined that digital financial services need to be addressed very sensitively and more aggressively. This is due to the impact digital financial services have on the lives of the people especially after Covid 19. The reach of digital financial services and products have reached many places including the rural and remote locations where people are not educated an aware regarding the existence and the process to use these services. The aim of the study is to elaborate the significance of digital financial literacy on the usage and adoption of digital payment mechanisms. Also, the study elaborates how financial literacy is the major hurdle in implementation of full digitalization of financial services. For the study, data was collected through a well-

structured questionnaire amongst the age of 18 – 60 who are educated to find out their adoption of digital financial services and their financial literacy levels. The results of the study reveal that its' just not digital literacy that matters for the use and adoption of digital financial services but digital financial literacy is equally important to get benefitted out of it. There is a need of proper awareness and education for the use and adoption of digital financial services.

Amitabh et al. (2023) conduct a study to explore user acceptance of digital payments in India by utilizing an extended Technology Acceptance Model. The study examines factors like perceived usefulness, financial literacy, trust, service quality, and ease of use to understand user acceptance of digital payment methods. The researcher identifies some key factors as impacting user acceptance and actual usage of digital payments. The study highlights that platforms like Paytm, Google Pay, and PhonePe are widely adopted, even in previously excluded financial segments. The study investigates the influence of financial literacy, trust and safety factors, service quality, and perceived usefulness on the perceived ease of use, behavioral intention to use, and actual usage of FinTech services and shows financial literacy doesn't directly correlate with digital payment acceptance. The study concludes that while digital payments are revolutionizing India's financial system, enhancing financial literacy is crucial for even broader adoption. It offers valuable insights for businesses, policymakers, and users navigating the evolving fintech landscape in India.

Mandal et al. (2023) opined that India is in process of being a digitized mode that will lead to stay in league with the European countries. Many businesses especially the e – commerce marketplaces, local grocery stores, small businesses are adopting digital technologies especially for payment mechanisms. Also, financial organizations are coming up with new products and services that are catering in this domain to make India a cashless economy. Further, to use these services and products, there is a dire need to educate the people about these products and services. The research also establishes that government has launched various workshops and programmes for digital financial literacy especially in rural setup. The study discussed about the importance of digital financial literacy to establish the fact that it has to be prerequisite for introduction of new payment mechanisms and technologies. Further, study also discussed about the various schemes, programs and strategies introduced by government for achieving digital financial literacy.

Monica et al. (2023) explores the impact of technology adoption in banking services on customer attitudes, using the extended TAM model. This study examines perceived usefulness, ease of use, and risk as factors influencing customer attitudes towards online banking. Analyzing 101 responses, the research found that while age and gender had no significant impact, perceived usefulness, ease of use, and risk all significantly affected customer attitudes. The study shows that banks should focus on enhancing the perceived usefulness and ease of use of their online services while mitigating perceived risks to improve customer attitudes and motivate adoption.

Mpofu et al. (2023) opined that digital financial inclusion, digital financial literacy has become very significant for adoption of digital financial services. There is a need of digital financial literacy for making it convenient for the people to use and adopt digital financial services for independent financial transactions for economic upliftment of the people. The study aims to examine the digital financial literacy and financial inclusion in rural area of Africa. The study suggests that digital financial inclusion and adoption of digital financial services is affected by the digital financial literacy levels of the individuals. Digital financial literacy and financial inclusion is very important for the effective management of financial and investment decisions.

Rathore et al. (2023) opined that digital financial inclusion and the use of digital financial services has helped the nation sin improving the economic and social conditions of the people in rural sector and the people living in remote locations. Rural area has shown a slow growth in adoption of digital financial services in day to day life and for day to day transactions than suburban and urban areas. The study was conducted to examine the level of adoption of digital financial services in rural areas. For the study, a well-structured questionnaire was administered to 100 respondents. The results of the study reveal that with initial apprehensions for adoption of digital financial services, the people in rural area have started to adopt the digital financial payment mechanisms. Further, respondents are inclined to use digital services for investments and credit card facilities.

Also, the study suggested various strategies to escalate the use of digital platforms for financial services in rural areas.

Uthaileang et al. (2023) conducted the study to examine the behavioural change and digital financial literacy to identify the variables, their financial skills and the motivating factors for adoption and usage of digital financial services. The study documents that, to encourage and motivate the people for adoption and usage of digital financial services, people need to be digitally financial literate so that they understand the benefits, security protocols and get the best benefits of the digital financial products.

Choung et al. (2023) conducted the study to find out the relationship between digital financial literacy and financial well-being that considers perceived financial conditions which will lead to determine the satisfaction level of people after they use and adopt digital financial services. The main prerequisite of being comfortable with the use of digital financial services is digital financial literacy. The study was conducted on young adults in Korea. The study revealed that there is strong relationship between digital financial literacy and well – being. This is due to the appropriate digital financial literacy helping them to have full product and service knowledge along with the knowledge about the security mechanisms and ability to protect them against digital financial frauds.

Amin (2023) conducted the study to understand the potential of digital financial payments and other services to improve the economic well – being of people in rural areas. The main factor promoting the adoption of digital financial products and services is the literacy level of these people. The study suggested financial literacy programmes and other awareness campaigns to boost and encourage the use of digital financial services.

Sarfo et al. (2023) conducted the study to understand the relationship between digital financial literacy levels and awareness about the credit cards issued to the farmers in the rural areas of Madagascar. The study intends to examine financial decision making of farmers on the basis of four factors i.e. inflation, mathematical abilities, analytical abilities (risk diversification) and finding interest. The results of the study reveal that there is positive relationship between digital financial literacy and farmers' awareness levels of digital credit. Further, the study suggested inclusion of digital education along with financial literacy at school level so that individual financial skills can be upgraded as majority of the farmers received basic formal education.

Need For Study

After demonetization, especially when government of India try to promote digital system of transactions then this is necessary to know about ground level reality of digitization in real India means rural India because approximately 66% population of India lives in rural area and their large contribution in GDP by agriculture and other self-employment.

Many studies have examined the adoption of digital payment mechanisms and digital financial services in daily life. Further, studies have examined the importance of digital financial services adoption, perception, and demographic profiles of respondents. Also, some studies were conducted in cities with a small sample size and respondents were students, service class people, businessmen, and other trained technology users (S.P et al., 2013; Reddy et al., 2017; Garget al., 2017; Manikandan et al., 2017; Kaur, 2017; Singh et al., 2017; Narayanaswamy et al., 2017; Shah, 2017; Thomas et al., 2017; Singh et al., 2017; Baghla, 2018, Singh, 2018; Gokilavani et al., 2018.

Some studies discussed digital financial services adoption, digital payment trends, and challenges/opportunities in digital India (Ravi, 2017, Narayana Swamy et al., 2017; Reddy, 2017; Shakir Ali, 2017; Thomas, 2017; Vally, 2018); Sharma, 2018; Aggarwal, 2019; Sribala, 2019; Rahmani, 2020; Ghosh, 2021; Nath, 2022; Ranjan, 2023).

For widespread adoption of digital financial services, especially in rural areas, researchers argue that digital financial literacy is essential. Buckley, 2015; Potrich, 2015; Finau, 2016; Prasad, 2018; Nedungadi, 2018;

Morgan, 2019a; Yang, 2019; Morgan, 2019b; Gupta, 2019; Shen, 2020; Goyal, 2020; George, 2020; Hasan, 2020; Lyons, 2021; Azeez, 2021; Raj Kumar.

Above literature shows that in Punjab region there is not a research under which rural area was studied to know the actual feasibility of digital payments after taken the step of government of India towards digital economy so we will try to explore ground reality of digital payments in different regions of Punjab.

Research Objective

To compare the feasibility of digital payments in various regions of Punjab i.e: Majha, Malwa and Doaba.

Hypotheses Of The Study

H0: There is no significant difference in the feasibility of digital payments among the regions of Punjab.

Scope Of Study

The scope of the study will be confined to know ground level reality of digital payments in regions of Punjab. For the purpose of this primary data will be collected from different rural areas of Punjab. There are three regions Majha, Malwa and Doaba under which 04, 15 and 04 districts and 2509, 6369 and 3528 villages are covered respectively. From above regions Malwa is a bigger region and less industrialized area than other two regions. From all villages we will consider only 1345 villages of Majha, Malwa and Doaba where population is among 2000 to 3000. We will target householders so that we can collect adequate data for our research.

Data Collection Method

The data is collected from primary sources through structured questionnaire. Purposive sampling method is used for village selection and data collection from consumers (householders). There are 276 villages in Majha, 845 villages in Malwa and 224 villages in Doaba region only 100 villages has been targeted out of these. From these 100 villages, 20 villages of Majha, 63 villages of Malwa and 17 villages of Doaba are related to this research.

Sample Size

Sample size is based on 100 villages of Punjab regions so 4 persons are targeted from these then 400 respondents are targeted as consumers (householders) from different areas/regions of Punjab.

Data Analysis And Interpretation

H0: There is no significant difference in the feasibility of digital payments among the regions of Punjab i.e Majha, Malwa, and Doaba.

2.3. Compare the feasibility of digital payments among different regions of Punjab.

Table 1: Descriptive Statistics of Feasibility

	N	Mini-mum	Maxi-mum	Mean	Standard Deviation
Awareness towards digital payments	400	1.82	4.91	3.27	0.67
Usefulness	400	1.33	5.00	3.37	1.06
Ease of use (EOU)	400	1.33	5.00	3.36	1.02
Attitude	400	1.67	5.00	3.11	0.98
Intentions to use (ITU)	400	1.00	5.00	3.27	0.97
Overall level of problem	400	1.57	4.71	2.98	0.73

Adoption score (Awareness+Usefulness+EOU+ Attitude+ITU)	400	9.09	24.58	16.37	4.21
Net score- (Awareness+Usefulness+ EOU+Attitude+ITU) – (Problem)	400	6.66	21.19	13.39	3.86
Feasibility - Feasibility (Net score/Adoption)*100	**400**	**69.99 %**	**91.94 %**	**81.22 %**	**4.20**

Source: SPSS Output

In Table 1, "Descriptive Statistics of Feasibility," descriptive statistics results may be examined to determine digital payment adoption factors. N 400 means the study used 400 people who provided complete data on all factors. To ensure data trust, this is crucial. The study examined several key factors that influence digital payment adoption. These included Awareness, Usefulness, Ease of Use, Attitude, and Intentions to Use. Awareness measures how much people know and understand about digital payments, Usefulness measures how useful they are, Ease of Use measures how easy digital payment systems are to use, and Attitude measures how people feel about digital payments. Overall problem level measures how difficult digital payments are for people; add Awareness, Usefulness, EOU, Attitude, and ITU to get Adoption. This shows the overall adoption-friendly factors. The net score is the "Problem" score minus the "Adoption" score. Considering both pros and cons, this is the net benefit of digital payments. Divide the net score by the adoption score and multiply by 100 to get the feasibility score. Considering the pros and cons, this proportion shows how likely digital payments are to become common.

In the above table, Awareness's mean score is 3.27, Usefulness's 3.37, EOU's 3.36, Attitude's 3.11, ITU's 3.27, and Problem's 2.98. Its standard deviation scores are 0.67, 1.06, 1.02, 0.98, 0.97, and 0.73, respectively. Mean score for adoption is 16.37, standard deviation 4.21, and mean score for net is 13.39, standard deviation 3.86. The mean feasibility score is 81.22%, and the standard deviation is 4.20.

The mean scores for Usefulness, EOU, and Attitude in the above table are all above 3 on a likely 5-point scale, indicating that people generally like digital payments. The mean scores for Awareness and Intentions to Use are also around 3, indicating moderate awareness and willingness to adopt; the mean score for "Problem" is relatively low (2.98), indicating that people generally see fewer problems with digital payments; the mean adoption score is 16.37, and the mean net score is 13.39, indicating a positive overall tendency toward adoption; and the mean feasibility score is 81.22%, indicating that people think it This study found that most participants like digital payments, have few issues with them, and think they can be widely used. This information helps us promote digital payments. This descriptive study is a good starting point for learning about the factors that affect people's decisions to use digital payments.

Table 2: ANOVA - Variation in feasibility with respect to region (Descriptives)

Feasibility (Net score/Adoption) *100

	N	Mean (%)	Standard Deviation	Standard Error	95% Confidence Interval for Mean		Mini-mum (%)	Maxi-mum (%)
					Lower Bound (%)	Upper Bound (%)		
Doaba	68	83.33	5.59	0.68	81.97	84.68	74.10	91.94
Majha	80	79.12	3.64	0.41	78.31	79.93	69.99	84.13
Malwa	252	81.31	3.60	0.23	80.86	81.76	73.29	87.95
Total	400	81.22	4.20	0.21	80.80	81.63	69.99	91.94

Source: SPSS Output

Table 2, “ANOVA - variation in feasibility with respect to region (Descriptives)” shows how feasibility changes in Punjab. The study is looking for statistically significant differences in feasibility scores between areas. This table describes feasibility scores for Doaba, Majha, and Malwa, followed by the entire sample. The number of survey participants per group is N. Doaba has 68 observations, Majha 80, Malwa 252, and the overall 400. The practicality question mean shows each group's average score. Within each group, standard deviation shows how spread out or variable practicality test scores are. 95% having faith the true group mean is 95% sure to be within Interval for Mean. Doaba's real mean feasibility score is 95% certain to be between 81.97 and 84.68. Minimum and Maximum show the groups' lowest and highest conceptual feasibility scores.

In the table above, Doaba's mean is 83.33%, standard deviation is 5.59, and standard error is 0.68. The minimum and maximum confidence limits are 74.10% and 91.94%, and the lower and upper are 81.97% and 84.68%. The Majha area mean is 79.12%, range is 3.64, and error is 0.41. The lower and upper confidence limits are 78.31% and 79.93%, and the minimum and maximum are 69.99% and 84.13%. The Malwa mean is 81.31%, the standard deviation 3.60, and the standard error 0.23. Lower and upper confidence limits are 80.86% and 81.76%, and minimum and maximum are 73.29% and 87.95%.

Doaba has the highest mean (83.33%), followed by Malwa (81.31%) and Majha (79.12%). The standard deviation is highest in Doaba at 5.59, lowest in Majha and Malwa at 3.64 and 3.60. In Doaba, feasibility scores are more likely to vary. Based on these descriptive data, regional feasibility scores may vary. In general, Doaba is more practical than Majha.

Table 3: Test of Homogeneity of Variances (Feasibility)

Feasibility (Net score/Adoption)*100

Levene Statistics	df1	df2	Sig.
12.725	2	397	.000

Source: SPSS Output

Table 3 shows Levene's Test of Homogeneity of Variances (Feasibility) results to determine if variable variances are the same across groups. This usually precedes an ANOVA test. This makes it clear what the test is for because many statistical tests, like ANOVA, require variance homogeneity. Variable Description appears to measure perceived problem availability.

The Levene test calculated Levene Statistics (12.725) in the table above. The variances between groups are measured. A larger number indicates larger variance differences. Define df1 as the number of groups being compared minus 1. This study compares 2 + 1 = 3 groups. Degrees of Freedom 2 (397), or df2, shows the number of possible outcomes for each observation in each group and is related to sample size. It determines test importance. The p-value, Sig. (.000), indicates the probability of observed results if the null hypothesis—equal differences—is true. A typical level of significance is 0.05, so.000 is less than that. The result rejects the null hypothesis and is statistically significant.

This proves "Levene's test is significant." Robust test becomes more reliable." It's statistically significant because the p-value is.000, disproving the null hypothesis of equal differences. The variance uniformity assumption is broken. The three groups' "Feasibility of Digital Payments" ranges differ greatly.

Normal ANOVA results may be inaccurate if variance homogeneity is broken. Therefore, "robust tests" (Welch's t-test or Brown-Forsythe test for comparing means) should be used when Levene's test is significant. These strong tests don't assume variances are similar, so they're more accurate. Thus, strong statistical tests that don't assume similar variances should compare these groups' means. Here, the standard ANOVA is inappropriate.

Table 4: Robust Tests of Equality of Means (Feasibility)

Feasibility (Net score/Adoption)*100

	Statistics	df1	df2	Sig.
Welch	17.439	2	128.578	.000
Brown-Forsythe	15.910	2	147.917	.000

a. Asymptotically F distributed.

Source: SPSS Output

Table 4, "robust tests of equality of means (Feasibility)" shows the output from a statistical test that assumes each group's data is normally distributed and has equal variances. Robust tests are used when these assumptions are broken, such as when data is not normally distributed or differences are not equal. They yield more accurate results here. Test statistics are calculated for each test. This number indicates the importance of the results and shows how different the group means are. How many groups are compared affects df1. This study has two tests, df1 = 2. The number of groups minus one equals 2, so three groups are examined. df2 is about sample size and group differences. Welch's df2 is 128.578, Brown-Forsythe's 147.917. A p-value called "Sig." indicates the probability of observing the data (or more extreme data) if the groups had no mean difference. The small p-value indicates a statistically significant mean difference.

In the table above, the Welch test is significant (Sig. =.000). There is strong evidence that the three groups' "Feasibility of Digital Payments" is not equal. Brown-Forsythe Test also shows significance (Sig. =.000). This supports the conclusion that group means differ significantly.

Comparing the three groups' digital transfer likelihood is statistically significant. Both tests showed a statistically significant difference in how the three groups view digital payment feasibility.

Table 5: Post Hoc Tests (Multiple Comparisons - Feasibility)

Dependent Variable: Feasibility (Net score/Adoption)*100

(I) Region	(J) Region		Mean (%) Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound (%)	Upper Bound (%)
Bonferroni	Doaba	Majha	4.20686*	.66192	.000	2.6155	5.7982
		Malwa	2.01654*	.54840	.001	.6981	3.3350
	Majha	Doaba	-4.20686*	.66192	.000	-5.7982	-2.6155
		Malwa	-2.19032*	.51499	.000	-3.4284	-.9522
	Malwa	Doaba	-2.01654*	.54840	.001	-3.3350	-.6981
		Majha	2.19032*	.51499	.000	.9522	3.4284

* The mean difference is significant at the 0.05 level.

Source: SPSS Output

Table 5 shows multiple comparison post hoc test results. The following tests are run after an ANOVA or Robust Tests of Equality of Means test yields a statistically significant result. These indicate that group means differ,

but they don't specify which groups. Post hoc tests identify those changes. It helps us determine if Doaba, Majha, and Malwa residents use technology to make payments differently. Comparing multiple groups increases the chance of an accidental statistically significant result. Post hoc tests reduce error rates by considering this. The region, the independent variable, determines the comparison groups. The places are "Doaba," "Majha," and "Malwa." When comparing two areas, the Mean Difference (I-J) shows how different the dependent variable means are. Std Error is the mean difference standard error. It measures difference variability. The p-value, or significance level, is Sig. It tells us the probability of observing the data (or more extreme data) if the two regions' means were the same. Statistical significance is usually indicated by a p-value below.05. The 95% Confidence Interval is a range of numbers that almost certainly shows the mean difference.

In the above table, Doaba vs. Majha p-value (0.000) is less than 0.05, and the confidence interval (2.6155 to 5.7982) is 2.6155 to 5.7982, indicating a statistically significant difference between Doaba and Majha. Doaba vs. Malwa p-value (0.001) is less than 0.05, and the confidence interval (.6981 to 3.3350) is. Doaba is significantly more feasible than Majha, as the mean percentage difference is 4.20686. Doaba has a significantly higher feasibility rate than Malwa (mean percentage difference = 2.01654). With a mean percentage difference of 2.19032, Malwa is significantly more feasible than Majha. A statistically significant difference exists between Doaba, Majha, and Malwa in digital payment feasibility. The analysis shows that digital payment feasibility varies greatly between the three regions. The most likely place for digital payments is Doaba, then Malwa, and finally Majha.

According to results, Doaba has the highest average feasibility and Majha the lowest. This shows that digital payment feasibility differs statistically between the three regions. The results show that Doaba, Majha, and Malwa regions differ statistically in digital payment feasibility. The analysis shows significant feasibility differences between the three regions. Doaba is most feasible, then Malwa and Majha. Doaba has the highest feasibility score, suggesting favorable conditions for the measured outcome, while Majha has the lowest, suggesting potential challenges or barriers.

Therefore, null hypothesis **H0: There is no significant difference in the feasibility of digital payments among the various regions of Punjab i.e Majha, Malwa, and Doaba stands rejected.**

Findings And Recommendations

1. Findings of the Study

For this study, to arrive at the findings and conclusions of the study, twofold analysis was done for descriptive analysis was done to understand the impact of financial literacy, financial scores and the digital payment were studied with the help of descriptive analysis for overall scores in rural Punjab. Also, to compare the feasibility of digital payments in Majha, Malwa, and Doaba, TAM Model, descriptive analysis and confirmatory factor analysis (CFA) are applied to compare how consumers (householders) perceive feasibility across different regions revealed by TAM model.

This objective addresses the fourth research question by comparing the feasibility of digital payment mechanisms in rural Punjab, Majha, Malwa, and Doaba. Three regions are compared to determine how consumers (householders) view digital payment feasibility. TAM Model, Descriptive Analysis, and Confirmatory Factor Analysis compare digital payment feasibility across regions. Summary of analysis results:

- Analysis shows that participants in Majha, Malwa, and Doaba have positive perceptions of digital payments, experience few problems, and consider adoption feasible. Such insights can help promote digital payment adoption. This analysis lays the groundwork for understanding digital payment adoption.

- The mean difference in digital payment feasibility among Majha, Malwa, and Doaba is statistically significant. The analysis shows Doaba is most feasible, followed by Malwa and Majha.

- The overall awareness score for digital payments indicates moderate awareness among participants, with some variation in understanding. The findings indicate the need for targeted educational interventions to

fill knowledge gaps in transaction safety, fraud support, and customer service. Public awareness campaigns should reinforce key security practices like not sharing OTPs and build trust in digital payment platforms' reliability and support systems. Fintech companies and service providers should improve customer support and grie. Overall, this analysis sheds light on digital payment awareness. The findings can guide safe and effective digital financial services adoption strategies. This analysis shows that there is similarity in perception of digital payment mechanism feasibility for Infrastructural Facility, Competence and Confidence dimension, and Knowledge of Feasibility dimension, and that the facilities available are inadequate.

2. Recommendations

To improve Feasibility of digital Payments in rural India, the study recommendations are summarized as below:

- Policy recommendations suggest integrating digital financial education programs at the school level. Simple topics like online banking, digital payment mechanisms, digital financial services, cyber security, etc. Regular workshops, awareness programs, and seminars should be held in rural Punjab to educate the public about digital payments.

- The study also suggested sending bulk SMS messages to rural Punjabis to promote digital payment mechanisms. SMS campaigns, radio broadcasts, T.V. commercials, and social media campaigns encourage rural Punjab to use digital payment mechanisms. Regular awareness programs on cyber security fraud detection and prevention are also recommended.

- Technology providers should simplify interfaces for rural Punjabi individuals to easily complete financial transactions. Technology providers should also offer local language support to expand digital payment mechanisms in rural Punjab.

- The study found low bandwidth, so apps should ensure transaction success in low-bandwidth areas. Application providers should include animated or self-learning modules in local languages to help users understand glitches and handle digital payments.

- For their CSR initiatives, application or service providers should work with NGOs to hold workshops and awareness campaigns in rural Punjab to promote digital payments and financial literacy. For better reach, service providers can distribute knowledge sharing material to NGOs.

- The study also suggested that financial institutions hold awareness programs in rural Punjab to promote digital payments and teach people about finances.

Conclusion

The step of the government of India towards cashless economy is absolutely good but it will take some years to completely transformation as digital economy because there are some major hurdles in the path of digital India like- poor infrastructure availability in rural area, low financial literacy of rural people.. If government of India come up with these hurdles and must take initiative for launch training programs regarding education of digital payments for rural people so they don’t feel fear from utilization of technology, then in coming few years India will become world’s largest digital economy. This is beginning time for digital India/cashless economy and future of India as digital/cashless economy is bright.

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