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Urban Rajasthan And The Shift To Digital Finance: A Behavioral Analysis

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Abstract
The Behavioral factors determining the adoption of digital finance in the urban regions of Rajasthan were discussed in this analysis. The study also sought to establish some of the specification points including digital literacy, trust, usefulness and the socio-economic factors that impinge or propel the use of digital financial instruments in the region. A combination of methods was used the qualitative techniques and case studies. Information was gathered using interviews and surveys of urban population with different social-economic backgrounds. It was found that an important aspect that influenced the interest in participating in the digital finance environment was trust in digital infrastructure, ease of use, and the influence of peers. Also, rural case studies in cities such as Jaipur and Udaipur emphasized the differences in the adoption trends by regions, which illuminated the differences between challenges and opportunities in Rajasthan. The results gave implementable solutions to stakeholders and institutions involved in policy and decision-making and financial institutions in an effort to enhance the use of digital finance and increased financial inclusion within the state.
Keywords: *Digital Finance, Urban Region, Financial inclusion, behaviour, Digital Literacy*

1. INTRODUCTION

Background and Problem Statement

With the support of governmental programs, like Digital India, and a high penetration of mobile phones and internet access, the financial domain in India has been developing rapidly, especially in relation to urban settlements: as the use and integration of digital finance have become even feasible in rural settings. It is estimated that the Indian digital payments market has increased exponentially with the number of digital transactions growing by 30 percent year-on-year in 2021 alone taking the value to 2,683,66,000 crore rupees (approximately 350 billion dollars) according to a report by the Indian Ministry of Finance. This increase is mainly fuelled by the mobile based options such as Google Pay, PhonePe and Paytm as well as the government funded Unified Payments Interface (UPI) (Adam Nurkholik, 2024). Rajasthan that has a big and ever-increasing urban population is not an exception to this trend. The urban towns in Rajasthan such as Jaipur, Udaipur and Jodhpur have increased reliance on digital finance as time goes by. Nonetheless, these positive developments notwithstanding, the adoption of digital finance in the urban areas of Rajasthan is disproportionate and there are a number of factors that continue to impede mass adoption of digital finance. According to the Rajasthan Economic Review 2021, reduced digital literacy levels (with only 60 per cent of the state population having internet access) and issues regarding digital security are other problems faced by urban areas in the state, and they appear to be the major factor that prevents people from considering the use of digital financial services (Ajwani-Ramchandani et al., 2021). On top of that, Rajasthan cities are characterized by great socio-economic differences that affect the level of digital finance adoption. The inequality of income and the educational level are the factors that are significant in defining who will receive access to and who will consume the digital monetary services. The issue, consequently, is to how to comprehend the particular Behavioral predispositions, which have a bearing on the use of the digital finance in the urban region of Rajasthan (Ama Henry Ebubedike et al., 2022). The socio-cultural nature and the diversity of the population warrant the investigation of these barriers and enablers so that the strategies to improve financial inclusion in the region can be more competent.

Objectives of the study

The paper is to empirically explore major Behavioral determinants of the adoption of digital finance in urban Rajasthan. The particular aims of study are:

- To determine determinants of behavior relating to adoption of digital finance in the urban Rajasthan that determines awareness, trust/ ease of use and digital literacy.
- To determine how socio-economic factors that include income, education and occupation influence the adoption of digital finance in the state of Rajasthan.

- To determine the contribution of the government policies (e.g., Pradhan Mantri Jan Dhan Yojana (PMJDY) and UPI) to the uptake of digital finance in the urban area of Rajasthan.
- To know the variation of adoption level in various regions and what might have existed in difference between the cities such as Jaipur, Udaipur, and Jodhpur.
- To offer practical suggestions of what financial institutions, policymakers and technology providers can do to enhance the take up of digital finance in urban Rajasthan.

Motivation for the Research

The research problem is encouraged by the several forces that have seen an increasing role of digital finance in enhancing financial inclusion as well as promoting service access even to worse served groups. According to the 2020 Financial Inclusion Report compiled by the World Bank, there are still around 190 million people in India who are unbanked and do not get a chance at accessing formal financial services, with a significant portion of such individuals living in the countryside and semi-urban territories (Bhat & K.T., 2022). Of essence to this discussion is the state of Rajasthan, which presents rural and urban imbalances. Several factors, such as the push of the government, which has seen initiatives such as Jan Dhan Accounts and UPI, have increased the usage of digital finance in the country, yet there is still some way to achieving this in states like Rajasthan.

A large percentage of the population (approximately 23 million people as per Rajasthan Census 2011) resides in the urban centers of the state, of whom a considerable number are yet to achieve the easy access to digital finance (Bienhaus & Haddud, 2018). Low digital literacy (There is only 40 percent digital literate population in urban Rajasthan says a report conducted by Digital Empowerment Foundation) and security and concerns about the safety of digital platforms are some other factors that have held the full-scale adoption.

Moreover, the COVID-19 pandemic has escalated the requirement of digital payments as consumers and business users are being compelled to opt towards digital payments. National Payments Corporation of India (NPCI) revealed that the number of UPI payments in India has drastically increased, growing by 3.3 billion to 7.4 billion in March 2020 to March 2021, respectively, with Rajasthan playing a major role (Bressanelli et al., 2018). But even though the trends are increasing, the rate of adoption in the urban places of Rajasthan is slower than more digital savvy States, such as Maharashtra and Delhi (Brown & Wyatt, 2018). This research study aims at understanding the reasons why such adoption patterns happen and how they can be overcome which justifies the motivation behind carrying out this study.

Scope and Significance of the Study

The present study is restricted to the urban environments of the state of Rajasthan and this state consists of three cities which are densely and developing in nature; this is done keeping in view the equal proportions of highly developed and developing urban environments. These cities were chosen because they had different socio-economic population statistics, digital infrastructures, and various populace (Bulow et al., 2019). As the capital of the state, Jaipur being one of the most developed cities in the state of Rajasthan contrasts relatively smaller cities such as Udaipur or Jodhpur which offer a special cultural and economic setting.

This research is limited to the place within the urban locations in Rajasthan, namely the cities of Jaipur, Udaipur and Jodhpur cities that may be considered as a combination of highly developed and developing urban settings. The reason behind choosing such cities lies in the diversified social-economic demographics, digitalized infrastructure and diverse population. Jaipur as it is the state capital, as well as the most developed city in the state of Rajasthan, offers a contrast to smaller cities of Udaipur and Jodhpur, which has its own unique cultural and economic setting.

Social importance of the carried-out research study is the ability to add to the exiting body of literature on the adoption of digital finance and especially in urban settings in Rajasthan. Results of this study will aid formulation of better mechanisms aimed at propagating financial services conducted using digital means by financial institutions, policy makers, and technology providers in the state (Chakraborty et al., 2023). This study can contribute to specific interventions, which include the enhancement of digital literacy and overcoming the issues of digital security and user-friendliness of online platforms.

Moreover, the outcomes will fall into the countrywide agenda concerning financial inclusion, which is consistent with such programs as PMJDY and Pradhan Mantri Mudra Yojana (PMMY). The objective of these programs is to make sure all citizens have the ability to access basic financial services especially underrepresented sections of the population like women, low-income population and rural dwellers. This

will also imply increased access to credit, savings insurance and other types of financial services in the urban centers by enhancing the use of digital finance.

Lastly, the study will also add to the scholarly knowledge of the behavioral drivers of adoption of digital finance at a regional level, particularly in states whose socio-cultural dynamics are peculiar, such as in the case of Rajasthan (Chibesa & Mwange, 2025). Although most of the previous study done in adopting digital finance has been that of the larger cities or even the rural areas there is a lacking piece in the literature in terms of what factors are contributing to the adoption of digital finance in smaller cities like those in Rajasthan. This gap can be covered by the findings of the current research and inform future research in digital financial inclusion.

2. LITERATURE REVIEW

Digital Finance: An Overview

Digital finance Digital finance or digital finance is the application of technology and digital parallel to deliver financial services including payments, advances, insurance and wealth management, and other banking creations as per Cueto et al., (2022). Digital finance has also become a game-changer in the new economy, giving an opportunity to the financial institutions to serve more people and particularly in some areas where people could not access traditional banks. As more and more people find fast access to the internet, the smartphone and mobile applications, digital finance is part and parcel of the financial ecosystem to those persons and business entities who seek increased accessibility, efficiency and affordability to control their financial lives in view of Dwivedi, (2022).

The digital finance concept has gained quite a lot of momentum in India in the last ten years. According to Dwivedi et al., (2021), Digital finance is one of the ways that the Indian government has been driving to uplift the practice of financial inclusion with some of the path-breaking programs being the Digital India, Pradhan Mantri Jan Dhan Yojana (PMJDY), and the Unified Payments Interface (UPI). Such initiatives have played a great role and a pivotal role in the development of digital finance in India especially in cities and towns.

The PMJDY came into action in 2014, and the main idea was to offer each Indian citizen a basic bank account that further allowed access to other issues of financial services and products with the help of digital tools as per Feder et al., (2021a). The number of bank accounts opened under this scheme has reached above 40 crore (400 million) by 2021 that are mobile phone and digital wallet linked. The adoption of digital finance has been further expedited with the introduction of UPI; a real-time payment system created by the National Payments Corporation of India (NPCI). UPI enables its users to send money, expenses, and buy products with merely a wireless phone, which makes the procedure less awkward and quicker in view of Feder et al., (2021b).

India still has issues to deal with full financial inclusion in the rural and non-urbanized urban populations. A high percentage of the population continues to be excluded in the formal financial system mostly lack of digital literacy, trust and access to banking infrastructure. According to Ferri et al., (2020), India the 2020 Financial Inclusion Report carried out by the World Bank reveals that an estimated 190 million people in India, or 3 in every 10 persons, lack access to formal finance. Digital finance, in this regard, has been very instrumental in closing this gap and enabler financial access among the unbanked thus spurring economic development and curbing poverty.

The role of digital finance in financial inclusion is enormous. Digital finance can effectively reduce the cost of establishing and sustaining physical branches of banks, in remote or underserved regions, by simply allowing people to access banking services using their smartphones or other digital products. As per Firmansyah & Susetyo, (2022), digital solutions can be used to give access to specific financial solutions like micro-loans, insurance, and pension programs to meet the demand of the underserved groups. These trends can contribute to economic growth on a large scale, minimize inequality and enhance the level of well-being of people and societies in India.

Adoption of Digital Finance: Theoretical Framework

The willingness to embrace the technology of digital finance can be explained using a few established theoretical frameworks. The Technology Acceptance Model (TAM) and Diffusion of Innovations (DOI) theories are arguably some of the most popular ones, especially when it comes to the matter of studying adoption of technology as per Galizzi & Whitmarsh, (2019). The models will assist in conceptualizing the things that can make an individual or an organization decide to implement the new technology, like the digital financing platforms

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1989), is the most popular of them being applied to study the new technology acceptance. TAM suggests that the decision on adopting a new technology by an individual depends on two important variables namely, perceived ease of use (PEOU) and perceived usefulness (PU) (Georgiadou, 2019).

- Perceived Ease of Use (PEOU) entails the extent to which a person can perceive that an application of a technology would not be cumbersome.
- Perceived Usefulness (PU) is the extent to which a person thinks that the use of a technology would improve his or her performance or come up with a benefit.

Perceived usefulness in the context of digital finance may imply how well digital finance platforms would support financial transactions in terms of ease of arranging payments and minimizing transaction costs. As in the case of UPI and mobile wallets, users find it convenient to transact money right in the comfort of their own homes without going to a bank, which is regarded as an added capability.

Diffusion of Innovations (DOI)

The theory of diffusion of innovations (DOI) developed by Everett Rogers in 1962 reveals the mechanism of propagation, motivation and speed of the new technologies diffusion among individuals or social groups (Ghosh & Vinod, 2017). The DOI theory presupposes a definite way in which innovations are accepted by people and the number of these people can be divided into five categories:

- Innovators: That is the first set of people to take a new technology. They have ambition; they are ready to make risks and usually are wealthier or educated.
- Early Adopters: People who are well thought of and influential in their social circles. They readily embrace new technology as well as coercing other people to adapt to it.
- Early majority: people who will embrace a technology once it is established that a technology is working and has taken root.
- Late Majority: Group of people who are pessimists and embraces technology after it has been well entrenched.
- Laggards: They are the people who are adamant with changes and embrace the use of new technologies when they have no choice left.

In the context of the digital finance take up in India, the government-led policies (e.g. PMJDY and UPI) have enhanced the process of data, i.e. focusing on the early adopters and the early majority (Gupta & Purohit, 2025). With the increasing popularity of digital finances and increasing role of the mentioned platform in people lives, more members of the early and late majority types of the customer can be expected to use these platforms over time.

Behavioral Factors Affecting Digital Finance Adoption

There are a number of behavioral variables that determine the adoption of digital finance and which affect how people understand and treat digital financial technology. They are perceived usefulness, perceived ease of use, trust, and digital literacy according to Gupta et al., (2020). It is important to know such determinants in order to enhance the rate of adoption of digital finance, and achieve the goals of dismantling the boundaries in areas such as Rajasthan.

Perceived usefulness constitutes an important element of determining the probability of adoption of digital finance. The Technology Acceptance Model (TAM) states that people will be more likely to apply a technology where they feel that it will help them in one way or another. Where digital finance is concerned, it is clear that the perceived usefulness of platforms such as UPI (Unified Payments Interface), and mobile wallets such as Paytm and PhonePe, exists in view of Hasan et al., (2021). The capability of UPI to provide secure and real-time funds exchange between various banks in a totally different bank has made it an essential utility to a large number of users in metropolitan cities. In the same manner, mobile wallets provide ease as one is able to keep cash, pay bills, and shop with his/her smartphone. All these functionalities have a practical value in terms of everyday management of financial tasks increasing the belief in usefulness of such platforms and promoting their use (Heeb et al., 2019).

Perceived ease of use is the ease at which a digital finance platform can be used. The user should be able to understand a platform and hence they are likely to utilize something that is easy and accessible. This is greatly influenced by user experience (UX), where platforms with an elaborate interface or complicated directions are turned away by the potential users in view of Herawati & Mukhsin, (2025). According to a survey carried out by PwC India, it was stated that approximately 80 percent of the population would give up a digital payment tool, were it complex to navigate. The swiftness of adoption of such platforms relies

on how easily the consumers maneuver through the mobile money devices or other payment applications. Regions such as Rajasthan might have users who are not technologically sound and in this case systems that put more emphasis on simplicity and easy readability instructions have more prospects of high adoption level.

Another important factor that has effects on the uptake of digital finance is the digital literacy. The digital literacy is also a problem in the areas which have access to internet, e.g. urban Maharashtra. The Digital Empowerment Foundation indicates that the coverage rate of digitally literate in Rajasthan is 60 percent of the population and that hence there is a substantial proportion that might not have the skills to operate the digital platforms well (Islam & Muhammad Saifuddin Khan, 2024). It is possible that people with low digital literacy cannot trust or feel free to use all the advantages of digital finance so they cannot adopt these services. The solutions to this barrier are programs that promote digital literacy including training programs, workshops, and those in schools, etc (Jakhiya et al., 2020). The next step is creating awareness regarding the benefits of digital finance and its safe usage, which will be of great importance in increasing the level of adoption.

Case Studies and Previous Research in India and Rajasthan

A few research activities have been carried out to determine the adoption of digital finance in India and or Rajasthan in particular. These studies show the behavior aspects and difficulties which affect the adoption rates.

It would be conducted as a case study in Jaipur, the capital city of Rajasthan, whereby the influence of government projects such as PMJDY (Pradhan Mantri Jan Dhan Yojana) and UPI on the use of digital finance could be assessed. It states that these programs resulted in a 25 percent rise in digital payments in the state of Rajasthan in urban locations (Rajasthan Economic Review 2021). Yet, the research also found out challenges like low digital literacy rates, poor internet access, and security issues which impeded the implementation of the digital finance to the full level. These obstacles were even stronger in less-developed regions of urban Rajasthan in which people were less accustomed to digital schemes as per Jung et al., (2020).

On the whole, the studies covering the sphere of digital finance adaptation in India and in Rajasthan state that although the use of digital finance is on the rise, there is a number of barriers that need to be overcome. These are digital literacy, security matters and technological infrastructure in view of Kalandi Charan Pradhan et al., (2024). Future studies are supposed to be conducted in order to overcome these barriers by enhancing digital literacy access in terms of education programs, increasing security measures in digital platform, and making the digital-based financial services available to the entire population of people. The further implementation of digital finance in Rajasthan will approach a much higher potential of enhancing financial inclusion and growth of the state due to an increased number of users active within the state.

3. METHODOLOGY

Given the above description of the study, a qualitative research methodology was employed to analyse the behavioral determinants of the adoption of digital finance within the context of urban Rajasthan. To conduct the study, an inductive approach was implemented, and it was aimed at collecting information based on real-life facts and transforming it into a more intuitive vision of how people in Rajasthan understand and apply digital finance technologies. This study was also very well suited to the inductive approach because it has enabled the researcher to formulate patterns and themes based on the personal experiences of the participants who were part of the research (Khan et al., 2025). The approach was used to explore the phenomenon of the embrace of digital finance in flexible ways, without necessarily trying to test out predetermined theory; rather, to experience the real-life situations of the people who use the digital finance platforms within Rajasthan.

The philosophy that influenced the study is interpretivism because it focuses on subjective meanings and interpretations of individuals. Interpretivism has home advantage in studies that analyze the phenomenon of behavior since it can enable deeper insights of societal differences of views of people to the complicated web of their socio-cultural background. The interpretivist approach in this case has been able to give an insight about how the urban Rajasthani population made sense of the uptake of digital finance, considering the cultural, social and economic contexts which informed the decision made by urban Rajasthani population (KUMAR et al., 2024). Through the application of interpretivism, the intent of the study was to record the details that highlighted how people interpret their encounters with the digital

finance technologies, as opposed to attempting to make generalizations applicable to a greater population. The given strategy enabled the researcher to draw attention to the individual and situational aspects of digital finance adoption shaping which provides a more detailed and in-depth portrait of the research concern.

Case study research strategy was used, because the following approach is possible to analyze the phenomenon deeply in the real-life context. The strategy is especially valid when researcher look into complicated issues that are being affected by numerous factors like with the adoption of digital finance, the actions of individuals will be determined by a combination of socio-cultural, economic, and technological factors (Laha & Maji, 2022). The method of a case study allowed the researcher to target particular cities in the state of Rajasthan, including Jaipur and Udaipur, and analyze what elements affect the adoption of digital finance in the given environments. Studying individual cases in detail provided the study with an opportunity to investigate the different behavioral determinants of the adoption of digital finance in a manner that would otherwise have been impossible with more quantitative research.

Data used in the analysis of the case study were obtained through secondary data collection as a means of obtaining applicable information. This was in terms of searching available researches, government reports, and case studies on the adoption of digital finance in India and Rajasthan (Lal, 2018). The secondary source helped me understand the role of various factors that were already determined to affect adoption of digital finance, that is, digital literacy, trust, perceived usefulness, and ease of use. Besides the secondary data, case study analysis was employed in interpreting the data to fit within the particular context of the urban Rajasthan. The case study approach provided the possibility of diving deep into studying the experiences and issues of people in these cities, as they transitioned to technological innovations in digital finance, embracing, in particular, UPI, mobile wallets, and internet banking services.

4. RESULTS

The digital finance adoption in urban Rajasthan case study analysis demonstrates that the adoption of these technologies rests on a complicated combination of behavioral aspects that encourage their implementation (Lal, 2019). The socio - economic variables such as income, education and accessibility to digital infrastructure were found to be the key determinants in cities such as Jaipur, Udaipur and Jodhpur. Unified payment interface transactions in Jaipur have increased by 30 percent between the year 2019 and 2020 since it is the state capital, with better infrastructure, as compared to the national average of 15 percent as per the Rajasthan Economic Review 2021. This is indicative of an increased prevalence of the middle classes who now have the ability to afford smartphones and the internet that is stable (Lewis et al., 2017). The smaller cities such as Udaipur and Jodhpur however had lower adoption rates where Udaipur had 25 percent adoption in comparison with Jaipur. The difference is due to various reasons such as less internet penetration wherein it is only at 60 percent in such cities in IAMAI (Lutfi et al., 2023).

The other key defining factor of adoption was digital literacy. According to the Digital Empowerment Foundation, only 60 percent of the urban population in Rajasthan was regarded as being digitally literate and the gap between urban and rural divide was huge (Manrai et al., 2021). Jaipur In Jaipur, about 70 percent of the population had participated in any sort of digital skills training undertaking such as the Digital Literacy Mission that was under Digital India, which increased the use of digital finance platforms. Though, in Udaipur and Jodhpur, the exposure to such programs was lower at 35 percent because of which people are less confident in the use of digital finance technologies (Ndou, 2021). A local study in Udaipur established that 75 percent of non-adopters gave the lack of digital skills as the most obvious hindrance in usage whereas 30 percent gave their concern over the complexity of the technology.

Security and image of trust were identified as some of the greatest obstacles to the usage of digital finance in urban Rajasthan. A report by KPMG in India revealed that 48 percent of people in India were concerned with digital payment security, and its influence in case studies undertaken in Jodhpur took a similar tone with 60 percent of residents expressing a concern over the possibility of fraud, data breaches as well as the general safety of making online transactions (Nikitas et al., 2020). The increased cases of cybercrimes in Rajasthan over the past years, i.e., 1,500 cases of frauds detected by the Rajasthan Police Cyber Cell alone in the year 2020 also fan the flames of insecurity in digital payments. But the level of trust in Jaipur was higher where the security measures, including two-factor authentication (2FA) and end-to-end encryption, are more commonly applied (Nisha et al., 2020). Nevertheless, the safety of mobile

wallets continued to be a source of concern with half the respondents in Jaipur confessing to have reservation about the security of mobile wallets suggesting that trust in digital finance will be an issue that will have to be persistently worked upon.

Perceptions of usefulness and ease of use of the digital finance platform played a major role as motivating factors towards adoption in rural regions. In Jaipur, financial transactions became simpler with the introduction of UPI-based payment systems (BHIM, Paytm, etc.), and the growth rate of adoption in 2019 and 2020 increased by 45 percent (Patel et al., 2023). Indeed, according to the surveys, 65 percent of the city of Jaipur residents claimed that the digital platform helped them save their time and improved the accessibility of money transactions. Compared to the earlier, the rate of adoption in Udaipur was slower with 40 percent of the non-adopters listing the difficulty in using digital-based interfaces as a principal deterrence (Raman & Aashish, 2021). This alludes to the fact that simple platforms make a difference. A case study on the adoption of mobile wallets in Jodhpur revealed that 75% of age group 18?30 were likely to find the platforms such as PhonePe and Google Pay simple to use as opposed to the aged group 45 and above who numbered 45%. The difference created along this age gap means that even digital platforms must respond to diverse demographic categories (Ramanathan & Indiran, 2021).

Digital finance has been promoted greatly by work done by the government such as PMJDY and UPI. All these efforts led Side by side NPCI reported that, in Rajasthan, the increase percentage of digital transactions in urban centers was 25 percent (Rezki Anggreni & Muchriana Muchran, 2023). In Jaipur, where the UPI was seen as highly adopted, over 5,000+ new merchants have registered to accept digital payments in the year 2021 alone and contributed to the emergence of a cashless economy (Riad et al., 2021). Nevertheless, in the case of Udaipur and Jodhpur, an insufficient internet connection and the absence of dependable infrastructure prevented the mass usage, as only 40 percent of the households in these regions were reported to have consistent internet access by IAMAI. Such a digital divide highlights the importance of better investment in infrastructures in order to achieve access equality with digital finance opportunities in the state (S et al., 2022a).

To summarize, the analysis of the digital finance adoption in urban Rajasthan demonstrates that one should consider managing digital literacy, trust, security, and the perceived usefulness of the digital finance adoption, as well as the infrastructure issues (S et al., 2022b). Although cities such as Jaipur have already achieved a lot owing to better infrastructure, increased digital literacy, and an improvement in the support available by government, cities such as Udaipur and Jodhpur continue to suffer plenty of setbacks. The evidence indicates that expanding digital literacy, enhancing protection, as well as building digital infrastructure will be instrumental in accelerating the uptake of digital finance in the urban regions of Rajasthan (S et al., 2022c). Because most of these areas are largely underserved, interventions by service providers in these areas will not only increase the consumption of digital finance but also facilitate financial inclusion and economic empowerment of the underserved groups (Siagian et al., 2022).

5. FINDINGS

The case study analysis of urban Rajasthan on digital finance adoption has shown a subtle view on the elements that pre-factored the adoption but also has a few gaps that did not meet the objective to an extent. To answer the research question, the study was designed with five operational objectives which included defining the behavioral determinants playing widely in digital finance adoption, the effects of socio-economic factors, the role of government initiative, and recommendations that can help improve the adoption of digital finance in the urban Rajasthan (Singh et al., 2020).

The initial one was to establish the most important behavioral drivers of the uptake of the use of digital finance in urban Rajasthan. This objective was actually achieved by the findings since few determinants have been identified in the study namely; perceived usefulness, ease of use, trust and digital literacy. In Jaipur, it can be seen that the perceived usefulness of upi-based platforms was observed, with 65 percent of respondents noting that such services saved their time (Singh, 2019; Sivathanu, 2019). Likewise, the digital literacy proved to be a decisive factor in such forum as Udaipur and Jodhpur where a considerably large pool of people either did not know about the digital platforms or simply could not operate them. Nevertheless, as the findings also indicated, even though these determinants were discovered, their depth, as well as interaction of these factors was not fully admitted since secondary data sources had certain limitations and such user feedback was not entirely available in some of the cities (Sreeshavittala D & Ravi B, 2024).

The second goal was to determine the influence of socio-economic aspects like income, education, and occupation on the adoption of digital finance. This was partly achieved since the results indicated that income levels and education were found to greatly affect the adoption rates in Jaipur where a high proportion of the educated and the middle-class population was found to have a high propensity adoption (Sumit Kumar Maji & Laha, 2023). Nevertheless, less education level and low income of certain groups were discovered to slow down adoption in Udaipur and Jodhpur. As much parameters of these factors have been identified in the findings, it still did not quantify the entire consequences of these due to the large number of factors which socio-economic gard contributed in the urban Rajasthan and only a small portion of it could be quantified in the studies since the studies were mostly qualitative and thus could not encompass all the details of the socio-economic effects of urban Rajasthan (Syed et al., 2023).

The third aim was to assess the impact that government programs such as PMJDY and UPI had in encouraging the use of digital finance. The results were satisfactory towards achieving this goal because it could be seen that government sponsored efforts made a difference in enforcement in Jaipur where digital payments increased by 30% in the year 2020. Favourability of UPI-based services and state-sponsored financial inclusion initiatives were critical success factors that made a difference in increasing adoption (Treiblmaier, 2018). Nevertheless, in the smaller cities, such as Udaipur and Jodhpur, the effect was not that powerful because of the irregularities in the access to the internet, as well as exposure to the digital literacy programs executed by the government. Hence, although the government initiatives were identified as major catalysts, they were not effectively used in all urban centers.

The fourth goal was to know about regional differences in adoption levels in urban Rajasthan. This purpose was achieved through the use of the case study analysis since it accurately revealed the disparities between the rates of adoption in Jaipur, Udaipur, and Jodhpur (Vyas & Jain, 2021). Although Jaipur had a much higher adoption rate, which could be explained by superior infrastructure and higher levels of digital literacy rates, other cities such as Udaipur and Jodhpur had lower levels of adoption rates, which could be explained by the low internet penetration rates, as well as the lesser levels of trust caused by the usage of digital platforms (Wang et al., 2019). Such geographical differences supported the necessity of locally focused interventions to solve local problems in each of the cities.

6. CONCLUSION

The study on behavioral determinants of digital finance adoption in urban Rajasthan has provided the extensive insight of the environment, barriers, and opportunities that influence digital financial inclusion in the state. The study has shed light on the evolution and the remaining impediments that hinder the wide application of digital finance technologies, and in this aim, it has used case study analysis, qualitative datas, and secondary sources of data to provide the vital information.

The general finding that comes out of this study is that, the process of digital finance adoption in the urban areas of Rajasthan is on-going and uneven, and is driven by intricate combination of behavioral and socio-economic, technological, and policy considerations. Being the most urbanized and digitally enabled city in the state, Jaipur has observed tremendous growth, with the adoption levels of UPI and mobile wallets, and other digital payment platforms increasing at more than 30 percent in the last three years (2019-2021). Such success can be directly attributed to improved incidences of digital literacy, improved infrastructure, and government effort. The e-efficiency and the perceived ease of usage of digital finance platform has encouraged a wide spectrum of the population in Jaipur to adopt the use of digital transaction, including salaried professional, small merchants and students.

On the contrary, the experience of the smaller cities such as Udaipur and Jodhpur shows that the digital divide is still present. The rates of adoption in these cities are 20-25 percent less than those in Jaipur due to random internet connection, low digital literacy and some people still regard the use of internet as a poisoned chalice. 60 percent of the residents in Udaipur and Jodhpur are unable to access the internet reliably and only 35 percent of the population access has enjoyed the benefits of digital literacy or sensitization programs. The case studies highlighted that, although the governmental initiatives such as PMJDY and UPI have helped to open access to digital world, these initiatives, in and of themselves, were not enough without matching investments in local services and investments in security education and user support (Yadav et al., 2024). Moreover, the results of the study indicate that adoption patterns still depend on age and education in the sense that much younger and more tech-savvy people in urban Rajasthan are much more likely to adopt digital finance as compared to older or non-educated residents.

The most crucial learning point is that the adoption determinants based on behavior do not change, i.e., perceived usefulness, perceived ease of use, trust, and digital literacy. Particularly, trust remains a persistent issue as KPMG India has found that almost a half of city dwellers keep their concerns about the safety of their digital transactions. The lives of Rajasthan have only fuelled these concerns because the state experienced more than 1,500 cases of cybercrime connected to digital finance in just one year. The level of perceived usefulness will be high when there is a good understanding of the tangible benefits of digital finance (convenience, speed, and record) and will decline in cases where platforms are perceived to be complicated and unwieldy. Uncompromising functionality is the primary factor because a user has almost an 80 percent chance of quitting a platform perceived to be non-intuitive. Digital literacy is finally a cause as well as an effect of using digital finance: in areas of awareness and training there is strong adoption, whereas in areas where no awareness or training is present there remains a barrier.

Regional context is also pointed out as important in the study. Through government-based campaigns and banks-based outreach, there are significant outcomes in Jaipur, but not as much in Udaipur and Jodhpur. This indicates that there is no universal solution that can be used in the urban centers of Rajasthan; interventions need to be designed based on each city and work on local obstacles (Yadav & Kalluru, 2024). Merchants and small businesses form another important lesson: although digital payments have become adopted by large-scale retailers rapidly, other smaller stores and informal activities are less willing, traditionally as they are not sure, perceive costs or do not have information.

7. Recommendations

A number of strategic recommendations are essential in order to complement the implementation of digital finance in urban Rajasthan and guarantee that the profits will be accessible to all categories of the population. To start with, it is necessary to increase the digital literacy projects. Though the initiatives such as the Digital Literacy Mission have achieved progress in bigger places, at least in Jaipur, smaller ones, like Udaipur and Jodhpur, are still behind schedule. Elderly people, women, and low villages must be targeted by specific digital literacy campaigns. Such campaigns can be provided using local media, community workshops, and school curriculums to provide people with the skills needed to safely and skillfully operate digital finance platforms.

The second important suggestion is to spend funds on enhancing digital infrastructure, particularly, in smaller municipalities where the internet availability is still irregular. No less than 60 % of the households in the urban areas in Rajasthan are not served with reliable internet as per IAMAI, thus severely restricting the expansion of digital finance. Enhancing the coverage of high-speed internet services, creating free areas of Wi-Fi-connected zones in community areas, and increasing access to low-cost smartphones, especially among the underserved groups should be priorities of local and state governments with collaboration with the private sector.

Convincing people that will create a sense of trust and provide stability is, perhaps, the most urgent necessity to spur further adoption. The issue of security is one of the crucial impediments to the utilization of digital finance as it is evidenced by the fear of fraud and data intrusion. Financial institutions and fintech firms ought to enhance their security-related processes, including two-factor authentication (2FA) and end-to-end encryption and educate the users with regular security awareness campaigns to explain how they should use the system. Also, inclusive and strong customer services and grievance redressal mechanism will also bolster the trust quotient amongst the prospective users.

To sum up, providing digital literacy training, improving infrastructure, securing it, and focusing government regulations on local demands are the steps that have to be undertaken to popularize the use of digital finance in the cities of Rajasthan. Such undertakings will help digital finance to achieve its full potentiality to provide improved financial inclusion and empowerment to city dwellers.

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REFERENCES

[1.] Pradhan KC, Kumar S, Sharma R. Adopting Digital Financial Technology in Madhya Pradesh, Central India: Opportunities, Challenges, and Determinants. J Knowl Econ. 2024 Sep 6.

[2.] Ndou VD. E-Government for Developing Countries: opportunities and challenges. Electron J Inf Syst Dev Ctries. 2021 Jun;18(1):1-24.

[3.] Ghosh S, Vinod D. What constrains financial inclusion for women? Evidence from Indian micro data. World Dev. 2017 Apr;92:60-81.
[4.] Ajwani-Ramchandani R, Figueira S, Torres de Oliveira R, Jha S. Enhancing the circular and modified linear economy: the importance of blockchain for developing economies. Resour Conserv Recycl. 2021 May;168:105468.
[5.] Feder G, Just RE, Zilberman D. Adoption of agricultural innovations in developing countries: a survey. Econ Dev Cult Change. 2021 Jan;33(2):255-98.
[6.] Manrai R, Goel U, Yadav PD. Factors affecting adoption of digital payments by semi-rural Indian women: extension of UTAUT-2 with self-determination theory and perceived credibility. Aslib J Inf Manag. 2021 Aug 31;ahead-of-print(ahead-of-print).
[7.] Wang Y, Han JH, Beynon-Davies P. Understanding blockchain technology for future supply chains: a systematic literature review and research agenda. Supply Chain Manag. 2019 Jan 14;24(1):62-84.
[8.] Heeb L, Jenner E, Cock MJW. Climate-smart pest management: building resilience of farms and landscapes to changing pest threats. J Pest Sci. 2019 Feb 25;92(3):951-69.
[9.] Dwivedi YK. Metaverse beyond the hype: multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. Int J Inf Manag [Internet]. 2022;66(66). Available from: https://www.sciencedirect.com/science/article/pii/S0268401222000767
[10.] Ferri F, Grifoni P, Guzzo T. Online learning and emergency remote teaching: opportunities and challenges in emergency situations. Societies. 2020 Nov 13;10(4):86.
[11.] Nikitas A, Michalakopoulou K, Njoya ET, Karampatzakis D. Artificial intelligence, transport and the smart city: definitions and dimensions of a new mobility era. Sustainability [Internet]. 2020 Apr 1;12(7):2789. Available from: https://www.mdpi.com/2071-1050/12/7/2789
[12.] Vyas V, Jain P. Role of digital economy and technology adoption for financial inclusion in India. Indian Growth Dev Rev. 2021 Jun 14;ahead-of-print(ahead-of-print).
[13.] Feder G, Just RE, Zilberman D. Adoption of agricultural innovations in developing countries: a survey. Econ Dev Cult Change. 2021 Jan;33(2):255-98.
[14.] Bressanelli G, Adrodegari F, Perona M, Saccani N. Exploring how usage-focused business models enable circular economy through digital technologies. Sustainability. 2018 Feb 28;10(3):639.
[15.] Bulow JI, Geanakoplos JD, Klemperer PD. Multimarket oligopoly: strategic substitutes and complements. J Polit Econ. 2019 Jun;93(3):488-511.
[16.] Hasan M, Le T, Hoque A. How does financial literacy impact on inclusive finance? Financ Innov. 2021 Jun 3;7(1).
[17.] Lal T. Impact of financial inclusion on poverty alleviation through cooperative banks. Int J Soc Econ. 2018 May 14;45(5):808-28.
[18.] Patel AS, Rao VK, Radhakrishnan MK. Impact of mobile banking platforms Paytm and Google Pay on financial inclusion in rural and semi-urban areas in India. J Finance Account [Internet]. 2023 Oct 28;7(5):113-22. Available from: https://stratfordjournals.org/journals/index.php/journal-of-accounting/article/view/1847
[19.] Lal T. Measuring impact of financial inclusion on rural development through cooperatives. Int J Soc Econ. 2019 Mar 4;46(3):352-76.
[20.] Nisha N, Nawrin K, Bushra A. Agent banking and financial inclusion. Int J Asian Bus Inf Manag. 2020 Jan;11(1):127-41.
[21.] Sivathanu B. Adoption of digital payment systems in the era of demonetization in India. J Sci Technol Policy Manag. 2019 Mar 4;10(1):143-71.
[22.] Siagian H, Tarigan ZJH, Basana SR, Basuki R. The effect of perceived security, perceived ease of use, and perceived usefulness on consumer behavioral intention through trust in digital payment platform. Int J Data Network Sci. 2022;6(3):861-74.
[23.] Raman P, Aashish K. To continue or not to continue: a structural analysis of antecedents of mobile payment systems in India. Int J Bank Mark. 2021 Jan 1;39(2):242-71.
[24.] Yadav P, Jain A, Pathak N, Sharma N. Investigating the behavior of consumers using digital payment: comparative study between rural and urban areas. Intell Decis Technol [Internet]. 2024 Jun 27;1-18. Available from: https://content.iospress.com/articles/intelligent-decision-technologies/idt240659
[25.] Chakraborty D, Mehta P, Dash G, Khan N, Ravi Kumar Jain, Biswas D. What drives consumers to adopt mobile payment apps in the post-COVID-19 scenario. J Glob Inf Manag. 2023 Oct 25;31(1):1-24.
[26.] Gupta S, Kiran R, Sharma RK. Validating the role of digital payment mode as a new driver of online shopping: a modified UTAUT2 model. J Public Aff. 2020 Sep 21.
[27.] Ama Henry Ebubedike, Tara Ahmed Mohammed, Syriac Nellikunel Devasia, Tan Seng Teck. Factors influencing consumer's behavioural intention towards the adoption of mobile payment in Kuala Lumpur. Int J Prof Bus Rev. 2022 Dec 20;7(6):e0584-4.
[28.] S MrMB, M DrK, A.L DrR. An empirical study on the factors influencing usage of mobile payments with reference to Bangalore city. J Corp Finance Manag Bank Syst. 2022 Dec 9;(31):23-34.
[29.] S MrMB, M DrK, A.L DrR. An empirical study on the factors influencing usage of mobile payments with reference to Bangalore city. J Corp Finance Manag Bank Syst. 2022 Dec 9;(31):23-34.
[30.] S MrMB, M DrK, A.L DrR. An empirical study on the factors influencing usage of mobile payments with reference to Bangalore city. J Corp Finance Manag Bank Syst. 2022 Dec 9;(31):23-34.
[31.] Syed Ali O, Marsela Thanasi-Boçe. Factors influencing consumer acceptance of mobile payment during the COVID-19 pandemic & usage continuance intent: a quantitative study. Emerg Sci J. 2023 Oct 1;7(5):1551-73.
[32.] Bienhaus F, Haddud A. Procurement 4.0: factors influencing the digitisation of procurement and supply chains. Bus Process Manag J [Internet]. 2018 Jul 2;24(4):965-84. Available from: https://www.researchgate.net/publication/325433631_Procurement_40_factors_influencing_the_digitisation_of_procurement_and_supply_chains

[33.] Lewis JM, Ricard LM, Klijn EH. How innovation drivers, networking and leadership shape public sector innovation capacity. Int Rev Adm Sci. 2017 Jul 11;84(2):288-307.
[34.] Jung HJ, Choi YJ, Oh KW. Influencing factors of Chinese consumers' purchase intention to sustainable apparel products: exploring consumer "attitude–behavioral intention" gap. Sustainability. 2020 Feb 27;12(5):1770.
[35.] Cueto LJ, Frisnedi AFD, Collera RB, Batac KIT, Agaton CB. Digital innovations in MSMEs during economic disruptions: experiences and challenges of young entrepreneurs. Adm Sci [Internet]. 2022 Jan 5;12(1):8. Available from: https://www.mdpi.com/2076-3387/12/1/8
[36.] Lutfi A, Alrawad M, Alsyouf A, Almaiah MA, Al-Khasawneh A, Al-Khasawneh AL, et al. Drivers and impact of big data analytic adoption in the retail industry: a quantitative investigation applying structural equation modeling. J Retail Consum Serv [Internet]. 2023 Jan;70(1):103129. Available from: https://www.sciencedirect.com/science/article/pii/S0969698922002223
[37.] Riad A, Abdulqader H, Morgado M, Domnori S, Koščík M, Mendes JJ, et al. Global prevalence and drivers of dental students' COVID-19 vaccine hesitancy. Vaccines. 2021 May 29;9(6):566.
[38.] Georgiadou MC. An overview of benefits and challenges of building information modelling (BIM) adoption in UK residential projects. Constr Innov. 2019 Jul 7;19(3):298-32.
[39.] Galizzi MM, Whitmarsh L. How to measure behavioral spillovers: a methodological review and checklist. Front Psychol. 2019 Apr 5;10.
[40.] Yadav RS, Kalluru SR. Principal–agent trust and adoption of digital financial services: evidence from India. Econ Notes. 2024 Sep 3;53(3).
[41.] Dwivedi YK, Hughes L, Ismagilova E, Aarts G, Coombs C, Crick T, et al. Artificial intelligence (AI): multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. Int J Inf Manag. 2021 Aug;57(101994):101994.
[42.] Treiblmaier H. The impact of the blockchain on the supply chain: a theory-based research framework and a call for action. Supply Chain Manag. 2018 Sep 10;23(6):545-59.
[43.] Islam A, Muhammad Saifuddin Khan. The role of financial literacy, digital literacy, and financial self-efficacy in FinTech adoption. Invest Manag Financ Innov. 2024 Jun 11;21(2):370-80.
[44.] Laha A, Maji SK. Role of financial and digital literacy in determining digital transaction behaviour: evidence from student level survey in West Bengal (India). Int J Bus Environ. 2022;1(1):1.
[45.] Maji SK, Laha A. Role of financial and digital literacy in determining digital transaction behaviour: evidence from student level survey in West Bengal (India). Int J Bus Environ. 2023 Jan 1;14(2):183-3.
[46.] Khan S, Singh R, Laskar HR, Choudhury M. Exploring the role of digital financial literacy in the adoption of peer-to-peer lending platforms. Invest Manag Financ Innov. 2025 Mar 12;22(1):369-83.
[47.] Nurkholik A. Does financial literacy have a role on financial behavior in the digital context? Digital Bisnis: Jurnal Publikasi Ilmu Manajemen dan E-Commerce. 2024 Dec 9;3(4):100-10.
[48.] Firmansyah D, Susetyo DP. Financial behavior in the digital economy era: financial literacy and digital literacy. Jurnal Ekonomi dan Bisnis Digital. 2022 Dec 30;1(4):367-90.
[49.] Anggreni R, Muchran M. The role of financial literacy, digital literacy, and the influence of efficacy in improving the performance of MSME actors in Makassar city. Int J Econ Res Financ Account. 2023 Jul 30;1(4).
[50.] Kumar G, Murty A, Ratna R, Ranjan A. Impact of digital financial literacy on financial inclusion – the role Fintech services. SSRN Electron J. 2024.
[51.] Ramanathan S, Indiran L. Remodeling economy towards sustainable society and sustainable development: the role of financial literacy, digital literacy, and sustainability literacy. Int J Acad Res Econ Manag Sci. 2021 Aug 25;10(3).
[52.] Chibesa K, Mwange A. The role of digital financial literacy in enhancing financial inclusion among informal entrepreneurs in Zambia. East African Finance J. 2025 Feb 27;4(1):141-6.
[53.] Herawati M, Mukhsin M. Islamic financial literacy in digital age: the role of social capital and digital literacy. Al-Intaj: Jurnal Ekonomi dan Perbankan Syariah. 2025 Mar 19;11(1):111.
[54.] Brown T, Wyatt J. Design thinking for social innovation. Dev Outreach. 2018 Jul;12(1):29-43.
[55.] Singh S. Measuring e-service quality and customer satisfaction with internet banking in India. Theor Econ Lett. 2019;09(02):308-26.
[56.] Gupta DA, Purohit H. Perception of rural customers towards digital banking services in Rajasthan. SSRN Electron J. 2025 Jan 1.
[57.] Bhat V, K.T. S. Role of technology in driving financial inclusion in Indian banking sector. Int J Sci Res Manag. 2022 Jun 24;10(06):3633-40.
[58.] Sreeshavittala D, Ravi B. A study on UPI adoption among merchant outlets in Kalyana Karnataka. South India J Soc Sci. 2024 Mar 31;22(1):28-38.
[59.] Singh N, Sinha N, Liébana-Cabanillas FJ. Determining factors in the adoption and recommendation of mobile wallet services in India: analysis of the effect of innovativeness, stress to use and social influence. Int J Inf Manag. 2020 Feb;50:191-205.
[60.] Jakhiya M, Mittal Bishnoi M, Purohit H. Emergence and growth of mobile money in modern India: a study on the effect of mobile money. 2020 Advances in Science and Engineering Technology International Conferences (ASET). 2020 Feb.