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Digital Wallets and User Attitude: The Rise of FinTech

Vishal Kamra*, Sony Thukral**

Abstract

The finance industry is experiencing a relatively new dose of refined competition. Startup firms, specifically, are showing more interest in jointly working with technological giants in the market, to bring about the required catalysts of the FinTech Revolution. The conceptualisation of FinTech began its journey by first venturing around in mobile payment, money transfers, crowd-funding, P2P (Peer-to-Peer loan settlements), purview of block-chain, crypto-currency, and to an extent, certain areas of robo-investing through simulation. All these domains have been existing for quite some time now, but there is yet another aspect that should not be left unnoticed. Increased consumerism has led to several companies trying to revise their customer experience. FinTech is highly associated with the concept of customer experience. This paper shall elucidate the fundamentals of FinTech from a practical perspective, and also draw an understanding on the attitude of users of mobile wallets and digital payment apps, and their practices as far as online transactions are concerned.

Keywords: FinTech, Digital Payment Systems, Digital Wallet, Online Payments

Introduction

The financial sector has ameliorated itself quite impressively over the past few years. The inception of ATMs was regarded as a milestone move that completely altered the course of action of even routine banking transactions. Innovations like NEFT/RTGS and wire transfers has changed the face of the financial industry. Several other technological changes began to happen in the finance sector, because of its ability to assimilate rapid improvements (Goldstein et al., 2019). Technology has thus proved itself a very pervasive phenomenon. In order to appropriately assess its effect on the finance sector, we will have to channelise our efforts in understanding the proliferation of digital mechanism in affairs concerning management of funds (Arora & Kaushik, 2018). Studies on cashless economies are relatively new in a country like India.

Digitalisation has introduced a milestone shift in the landscape of the financial industry as a whole. Digital push will remain unimagined without the presence of cashless economies. Demonetisation can be regarded as an augmentation of this bigger dream of cashless economy. The journey began when the banking sector, in early 2000, experienced the digitisation process. The conventional approach in banking is now steadily moving to the approach of convenience banking. This paper will delicately focus on exploring the literature that exists on the very concept of FinTech, by also taking into consideration the case of companies that have established a name for themselves in the digital payment sector. Assessing user attitude towards these digital payment systems by way of data collection, and thereby deriving key insights from them, is also a part of the methodology.

A novel innovation in financial services has been introduced by financial technology startups. What numerous financial institutions could not even imagine after several years of operations, FinTech startups have quite adequately provided. Optimising their offerings as per digital channels, these startups were swifter than banks to leverage the improvements in technology, simultaneously providing user-friendly operations at the lowest cost possible.

FinTech startups are unfettered by the regulatory compliance that banks have to go through; rather, these startups channelise their efforts saved from such long processes towards building solutions that create a better experience for the ultimate consumer of the services (Aruna & Shubhashree, 2019).

* Assistant Professor, Amity School of Business, Amity University, Noida, Uttar Pradesh, India. Email: vkamra@amity.edu
** MBA Student, Amity School of Business, Amity University, Noida, Uttar Pradesh, India.

It is extremely important to acquaint oneself with the connotation of FinTech before any further technicality associated to it is examined. FinTech is when financial sector innovations that exemplify technology-enabled business models help in disintermediating and revolutionising how firms create and deliver their offerings, and consider privacy concerns, and law and regulatory applicability.

Vasant Dhar and Roger Stein of MIT Sloan School of Management, who have also been acknowledged for the above definition, have quite remarkably explained in their article 'FinTech platforms and strategy' the various trajectories that FinTech innovation has introduced in the finance industry. They elucidate the strategies that business models can deploy for increased advantages.

It is crucial to delineate the variations that exist between technology belonging to FinTech and the other financial or scientific ameliorations that have taken place. Several researchers have accentuated the fact that FinTech ultimately consists of the set of recently formulated digital computing technologies that have been deployed to financial services.

FinTech being a very broad area of study, also has, in itself, several categories that Vasant Dhar and Roger Stein have very thoughtfully tabulated. The categories of FinTech primarily include the various mechanisms through which the financial service provision has been improved to a great degree. We shall understand these categories using the table obtained from the research paper of these professors, and try to assess the relevance of each of these concepts further in the literature review aspect as well.

The paper produced by Goldstein, Jiang and Karolyi (2019), through a theoretical elucidation, will endeavour to acquaint the reader with all facets of FinTech. In the literature review section, we shall focus more on the previous studies that have been carried out, but herein, to suffice for the introduction, we shall study about the foundational concepts related to FinTech.

McKinsey and Company has always taken an active part in formulating theoretical content pertaining to upcoming research topics. FinTech was no exception. Jeff Galvin et al. (2018) have elaborated the ten principal trends that shape the whole idea of FinTech in their paper, 'Synergy and disruption: Ten trends shaping FinTech'.

Financial institutions are getting themselves associated with FinTech startups, either as investors or in the form of strategic partnerships. As per McKinsey Panorama, about 80% of financial institutions have begun FinTech partnerships. According to the above mentioned paper, FinTech investment in the year 2011 was $1.8 billion. With changing times and an impressive digital wave, by 2018 FinTech investment rose to $30.8 billion.

Cost of customer acquisition is also an important facet that affects the FinTech arena. FinTech infrastructure provides financial institutions with requisite services, to accelerate the digitisation of their technology and ameliorate the risk management concerns, while focusing on creating a memorable customer experience. The authors quite vehemently opine that financial institutions will also be subject to the obstacles pertaining to skills required and creation of essential organisational culture.

The authors have explained the 10 trends shaping the success of FinTech; in third place, they have highlighted how important it is for FinTech startups to accurately roll out their strategy, keeping in mind the power of marketing campaigns and the awareness level among the users of the services. Solid business models, as they say, have the power to augment scalability and increase the chances of attaining success in the business.

FinTech companies have emerged as execution machines that seek to bring out innovative offerings for their customers. Seeking refuge in remarkable digital marketing campaigns, they can further increase the sustainability of their business. Notably, most victorious FinTech behemoths have not deployed an all-together new technology; rather, they have analysed the gaps that prevailed in existing technology, and have made a refreshed version of it.

Data-oriented estimations, coupled with pilot-testing efforts and continuous assessment, have therefore given winning FinTech firms the apt product-to-market fit.

An all-new technology may sound competitively strong, but it may herald numerous complexities for the organisation. The fear of an untested demand may further increase the firm's difficulty, as it might not be able to chalk out a befitting business model for itself.

For the sake of exemplification, we can consider the case of cross-border money transfer. Players like Western Union

have largely dominated this sector. TransferWise, a less talked-about digital firm has built itself on conventional payment trail mechanisms, rather than carrying out any reinvention deploying the latest technology.

A mention of the contribution of digital campaigning was made above. In the case of TransferWise, it can be vouched for. TransferWise drew insights from user experience and the well chalked-out marketing campaigns, to carve for itself a unique space in the FinTech sector. It reported revenues worth £117 million in March 2018 (Galvin et al., 2018).

An In-depth Association between FinTech and Cashless Economies

Numerous studies conducted in the field of FinTech significantly explain a relationship between the cashless economic arena and the mechanism of FinTech, typically concerning the aspect of digital payments.

What are Cashless Economies?

A cashless economy is a situation where tangible cash becomes largely non-existent and transactions can be carried out with the help of electronic media, involving the use of credit and debit cards, coupled with immediate/instant payment systems and banking operations like real-time settlements and electronic fund transfers.

In any country that has been subject to digitisation in monetary aspects, the sole intention was to give it a push towards a cashless economy by deploying a digital wave. There are a number of factors associated with making any country a digital economy; one such is 'digital literacy'. We shall discuss the same in a detail-oriented way subsequently. A cashless economy is viewed as a very futuristic concept that has in itself the capability to revolutionise any society, by empowering it on the digital front (Arora & Kaushik, 2018).

Understanding the benefits of a cashless economy is equally important. With an accepted degree of accuracy, cashless economies can be seen as eradicating black money and corruptive practices in the financial system. This increases its reliability. Cashless systems increase transparency and improve the stance of accountability at the end of the monetary continuum, that is, the inter-relationship between various entities that enter into a monetary transaction with each other and exists at the end of this transaction. Over a few years, FinTech has been ahead in the line of technology-driven innovations on a global perspective. The first trace of FinTech was found in the 1990s as several global financial service providers sought to create a unique proposition for themselves.

Arner et al. (2018) have accentuated that FinTech has revolutionised exclusively as a consequence of governmental insistence. FinTech expresses a semblance between finance and the mechanism of information technology. The financial system has transformed to a greater extent with the help of technology. Pollari, in 2016, published research on FinTech, highlighting the fact that FinTech has begun its journey towards changing the way consumers transact with each other. These words can be regarded as prophetic.

On the other hand, Zucarro (2016) also mentioned about the lower income classes who are deprived of bank accounts, and who, nonetheless, can connect with the idea of FinTech for the sake of the benefits they might avail through it.

The Case of the Indian Economy

India has had a history of a cash-based economy associated with it. The financial system in the country has highlighted several loopholes, corruption and red tapism, to name a few. Undoubtedly, a cash economy is far more liquid, but the evils of tax evasion, money laundering, and terror financing deter its growth and success, only to cause the entire country to perish. Change in political ideologies has brought about perceivable improvements in the monetary concerns of the nation. We shall discuss these in detail while exploring the literature available on Digital India Movement.

Aruna P. and Acharya (2019), in their paper 'FinTech: Ushering in a digital revolution', have highlighted the demerits of a cash-based economy. They opine that it increases the corruption rate on account of the voluminous money supply. This all together reduces the reliability of the system and deteriorates the stance of accountability as well.

It is worth mentioning that the Indian economy has come far ahead from where it used to be. Subsistent in nature, it also went through a paradigm shift when industrialisation struck. From then on there has been no looking back. Modern-day India is driven with the vision of becoming sustainable. Financial inclusivity is yet another aspect of the developmental tasks that the government seeks to accomplish. Enough literature is available to prove it.

Kandpal and Mehrotra (2019) highlight the fact that along with FinTech, endeavours are made to include the maximum number of people from different strata of the society. What is hampering dynamism is the lack of requisite awareness and financial literacy among the rural population of India. Economic progress in such circumstances is hard to imagine.

It is since early 2015 that FinTech became a talked-about concept in India. It is usually unattended by even the educated masses, as they confuse it as being an extremely tech-savvy ideology. FinTech in reality came into being as a matter of necessity, rather than being just a technological invention.

India is a geographically dispersed country, with numerous organised and non-organised sectors, due to which the proliferation of FinTech in India becomes a hard task. Around 40 companies have come into existence since 2016, to cater to the functionality of FinTech. The FinTech concept has been quite popular in Europe and the USA. In India, it still awaits to witness its best possible deployment, because of the ongoing economic development in the country. Baiju and Kumari (2017) have noted that in countries like Belgium, Italy, and Canada, almost 90% of the educated masses prefer to make cashless payments, while in the United States and Australia, 80% of financial transactions are undertaken using the digital arena.

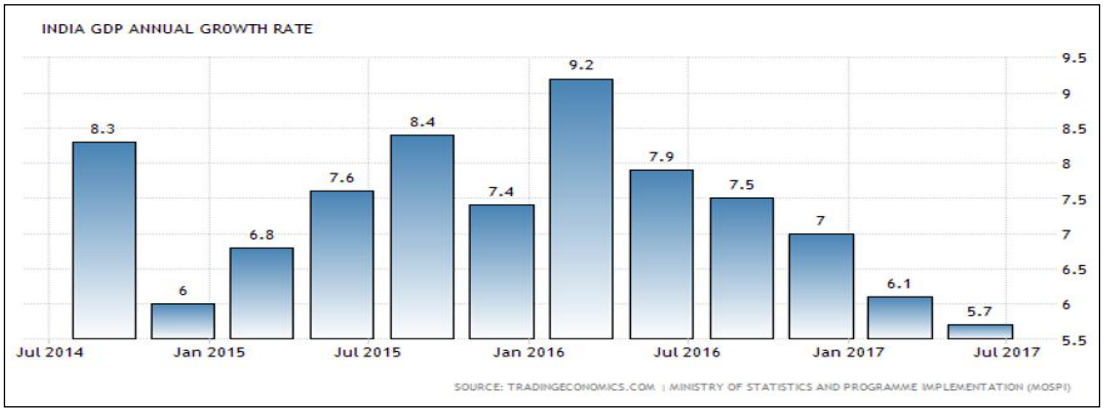
FinTech has been subjected to different adoption stances in countries across the globe; the sole reason behind it is the country-wise infrastructure. Every country differs in its capability to assimilate technological changes; therefore, the success rate of FinTech varies globally.

The Stance of Demonetisation

The year 2016 brought about numerous changes in the economic fabric of India. It essentially paved a new way for FinTech to show its magic to the Indian masses. Researchers have said that demonetisation was responsible for making people more aware of the usage and the associated convenience of FinTech. Implications of demonetisation were so widespread that it led to the educated people gradually accepting it.

As mentioned before, the subsistent economic structure of India has been a reason for its extensive dependence on agriculture. Almost 70% of the Indian households are highly dependent on agriculture. The other segment includes street-based vendors who earn their bread and butter only through cash-based selling. Thus, cash transactions have been a coherent part of the Indian economy for centuries (Shah, 2017).

The following is a diagrammatic representation (bar graph) that indicates the immediate effects of demonetisation on the GDP Annual Growth Rate of India.



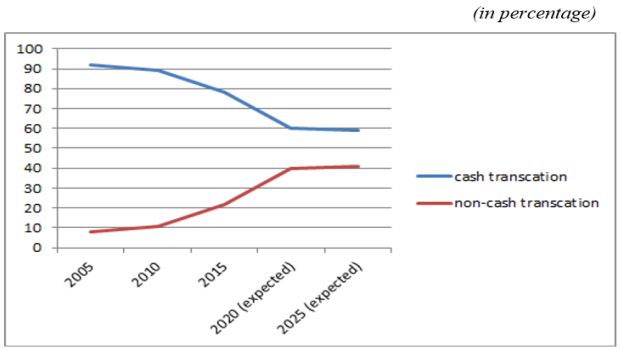
Source: Tradingeconomics.com/Ministry of Statistics and Programme Implementation.

Fig 1: Bar Graph Indicating the Annual Growth Rate of GDP over 3 Years

Fig. 1 clearly indicates that in 2016 the annual growth rate began to fall due to the transactions that began to happen online. This could supposedly mean that the circulation of tangible money in the economy had dwindled. Not every Indian is technically literate and can operate digital payment apps. Demonetisation has been considered a hallmark event that quite exquisitely paved the way for FinTech to expand itself and become India-friendly.

Yet another associated event in the same trail has been the Digital India campaign. Digital India campaign can be regarded as one of the consequences of demonetisation. It was a well-worked-out scheme by the Government of India to promote cashless transactions in the economy. Both demonetisation and Digital India campaign have been a stimulus for the country's increased inclination towards digital payment mechanisms. Several research papers have vouched for this perspective.

We shall refer to yet another diagram, where the expected percentages of cash and non-cash transactions will be highlighted.



Source: http://www.dnaindia.com/analysis/column-cashless-but-not-moneyless-2275390

Fig. 2: Comparison between Cash and Non-Cash Transactions in India

This particular graph reflects the respective percentages of cash and non-cash transactions between 2005 and 2025. It clearly indicates that cash transactions were falling between 2005 and 2020, and the non-cash transactions are seen to rise remarkably. By mid-2020 and 2025, it is seen that both kinds of transactions, i.e., cash and non-cash are seen to become stable.

The above chart is evident of the fact that India's non-cash usage is expected to be almost equivalent to its cash usage. This can only be plausible through robust immunisation of FinTech in India.

A 2020 Perspective of FinTech

Well, when we think of the year 2020, the dread of the coronavirus quickly comes to mind. Wait, what association does coronavirus have with FinTech? There is a relationship. FinTech providers, globally, are helping banks to provide assistance to their customers in these trying times. They are extending free, discounted, and swift offers to financial institutions.

Source: https://www.forbes.com/sites/ronshevlin/2020/03/23/a-list-of-fintech-firms-providing-free-technology-to-banks-during-the-coronavirus-crisis/?utm_medium=email&utm_source=fintechweeklycom#6cba2d8c1b5e

The article by Forbes, 'A list of FinTech firms providing free technology during the coronavirus crisis', is an extremely credible source that gives us an idea about the FinTech providers outside India, who have offered their support to financial institutions. Banks are a part of the essential services sector and their job can never be compromised. They have to be performing upfront for the economy to sustain itself.

Coronavirus has become a major concern for the whole world. It is seriously affecting developmental tasks; however, the FinTech sector has not been oblivious to it. In the following paragraphs we shall get acquainted with a few firms that have assumed the responsibility of doing their share of good in these tough times.

Aspen Grove, which is a property servicing platform, has eradicated subscription fees and looks forward to removing the initial sign-up and renewal fee, to help people avail more technology-oriented services.

Autobooks, another FinTech firm, is helping out small businesses by collaborating with online banking vendors to enable fast launching of apps, facilitating these businesses in running their business.

Bakingly is a software mechanism that works in a cloud environment by using pay-per-real-use. It is extending a non-transactional android app for 3 months. With the help of this app, financial institutions can interact with their clients.

BillGO is helping clients in tracking, managing, and paying bills in one compact module. With this, clients will not have to log in multiple times to keep track of when their bills are due; they can make payments in a hassle-free way. BillGO's Prism app helps clients keep the required check on their finances.

Botdoc is playing a major supporting role during COVID-19 by allowing banks to transport their client database within the secured arena of end-to-end encryption mechanism, without having to download apps and remember usernames and passwords. Around 15 users can use Botdoc for free for 60 days.

We shall now focus on the theoretical areas pertaining to FinTech, with the help of a holistic literature review.

Literature Review

It is crucial for every researcher to develop a thorough understanding of all the previous researches pertaining to a topic or a body of knowledge. Literature review helps a researcher in giving a 360° approach to his work by elucidating the studies that other researchers have conducted in the past, on either the same topic, or other closely associated ones.

Numerous individuals have worked on research papers that deal with FinTech. The efforts are channelised towards documenting some of these, so that the readers of this work are able to perceive the different facets of the theoretical arena of FinTech.

Literature Review

Part I: The Early Traces of Ameliorated Payment Systems

The research interest in FinTech that took form in the first full-fledged literature on online payment systems and its opportunities has its roots in the early 90s, when the proliferation of Internet technology had risen. Havinga (1996) accentuated the connection that prevailed between Web technology and the novel phenomenon of e-commerce, while the search for unconventional payment solutions and associated typology was prevalent.

Furst, Lang and Nolle, in 1998, chalked out their first research in the context of e-payments. These researchers were smart enough to also identify that online and digital payments will change the dynamics of the banking and e-commerce sector.

In 2000, IDRC submitted its project report that quite remarkably developed an ICT mechanism for the sake of ameliorated communication base for rural areas. An affirmative implementation and adoption was observed as a consequence.

Abrazhevich (2001) drew the classification over the features of the payment and related transaction systems. Abrazhevich talked about the requisition of new payment methods to bring desired paradigm shifts in e-commerce. He also emphasised that customer experience with payment systems was extremely important to be assessed, to appraise these systems as and when required. Singh (1999) mentioned that e-money consists of all non-cash and paperless transaction instruments, like debit/credit cards, and categories of fund transfer and those related to ATM, fax, and telephone.

Sorkin (2001) elucidated the payment methods which consumers preferred for online auctions and discovered that although cash and cheques were primary payment options, some users went ahead with Web-based settlement mechanisms. In 2001, the same researcher also deduced that Web-based payment systems were usually avoided due to privacy and security pitfalls associated with it, thereby even forgoing the convenience and swiftness they had to offer.

For the sake of understanding payment behaviours of consumers, various researchers carried out focus group interviews and online surveys. Results are varied, but on a general context exhibit that consumer behaviour is consistent with respect to their preferences.

Some researchers have drawn a relationship between FinTech and retail banking in a very close-knit arrangement. Innovations stimulated banks to embrace technological ameliorations in the payments perspective (Furst & Nolle, 2004). World Bank has been performing surveys to analyse payment systems on a global level. Its famous Snapshot Report has been published since 2008, to chalk out the essentialities pertaining to payment systems as a part of FinTech. World Bank recognises itself

as an international standard setter and formulator, since it works on numerous basic issues, thereby providing policy-related circulations (The World Bank Group, 2016).

Latest research work on FinTech with regards to payments related to consumers and banks has been published through case studies by credible consultancy firms like McKinsey.

Rysman and Schuh (2016) have worked on consumer payments and have elaborated 3 innovations that are of extreme importance.

- Mobile Payments
- Real-time Payments
- Digital Currencies

The above 3 phenomenon have been successfully launched in India and users have been making full use of these. Mobile payments have gained enough popularity in Asia.

Yang et al. (2005) worked, as per a case study approach, to view the operational efficacy of small community banks that serve geographically smaller areas and e-banking systems that have brought about the necessary opportunities to improve operations of the businesses, and to make markets slightly more competitive. Akinola (2012) worked to check the reliability of e-money services and spread awareness with regards to these services. Sharma (2012) highlights the necessity of introducing net banking in villages to eradicate the stance of poverty there. Midha (2016) elucidated digitisation process and the efficacy of the Digital India campaign. Mathangi et al. (2017) discussed service quality assessment in the arena of digital banking. Types of electronic money have also been considered by several researchers. There are 2 types of electronic money that Dehghan and Haghighi (2015) have added to literature, namely online e-money and offline e-money. Online electronic money connotes something which is necessary to communicate with the bank, to transact with a third party. Offline e-money transactions take place with no immediate involvement of the bank.

In Indonesia, e-money is segregated into 2 types, viz., chip-based and server-based. Chip-based is a type of e-money where RFID, i.e., Radio Frequency Identification Device, plays a very crucial role. Server-based e-money is associated with a particular company under consideration. A modern-day analysis of the existing payment systems can possibly extend the theoretical arena, but can also herald new insights on user behaviour and the obstacles pertaining to financial institutions, like banks.

FinTech is a service sector that largely depends on mobile-centred technology to induce efficiency in the financial system.

Singh et al. (2017) discussed the dynamism of buyer behaviour after demonetisation struck the Indian economy. A conclusion was furnished, whereby consumer behaviour is influenced by demonetisation to a great extent, and the significance of digital literacy was established. Munjal (2017) examined the effect of demonetisation on business class, shopkeepers, and retailers. Sudent (2017) elucidated the SWOT analysis of cashless Indian economy, that is, its strength, weaknesses, opportunities, and respective threats while it made its decision to go cashless. Gujrati, in his work in 2017, elaborated 3 roles of Digital India, pertaining to its promotion of faceless, paperless, and cashless transactions. It considered mobile phones as playing a pessimistic role in the Indian economy.

Renewal of economy, an aggravated level of competition, and so on, need to be taken into consideration before any further attempt is made to increase cashless transactions in India.

Khurana (2017), in his paper, considered the role that the Government of India had to play in the popularisation of cashless transactions in the economy. The merits of cashless economy and the pitfalls in its implementation have been explained.

Bindra (2017) identified both positive and negative effects of a novel cashless economy. As a result, while achieving the goal of Digital India, weak areas of cashless transactions could also be recounted. The role of the Reserve Bank of India and the government to stimulate and quicken the implementation of a digital economy cannot be forgotten. Dash (2017) focused on the significance of a non-cash economy, by elucidating the steps required to build upon the crucial network size.

Tawade (2017) focused on the importance of cash by elucidating opposition to the less-cash policy, in addition to explaining the risks and benefits associated with

e-payment instruments. Technology experienced a big shift as a consequence of digital banking. It is important to reckon the benefits and challenges associated with the initial stages of digitalisation. Tawade further highlighted the fact that going cashless provides more benefits to the country. Dalaien (2017) examined the benefits of a cashless economy through a questionnaire. The results vouched for the fact that a cashless economy is not largely beneficial to the general public. Thakur (2017) studied and identified the numerous types of cashless options and opportunities viably existing in the market. Several papers, like that of Garg et al. (2017), studied the view of people about the whole concept of cashless economies. Kumari (2017) explained the objectives of visiting branches with an intention of becoming cashless. The author also elaborated the obstacles of making an economy like India cashless, which has had a history of conventional cash-based systems.

Part II: Elucidation of Credible Reports on Financial Concerns

Development Research Project (2013) endeavoured to provide literature on the financial needs of the poor by carefully understanding how the surplus is deployed to meet the short-term and long-term needs and emergency requisitions, to chalk out strategies for financial inclusivity and designing financial products accordingly. As per this report, the rural segment seeks to follow its own strategies for cash management, for the sake of keeping control over their daily expenditure. Around 107 households in the Ernakulum area of Kerala were studied. This range and geography was prescribed by RBI. The study aimed at understanding the nature of cash inflows and outlay in relatively poor households. In addition to studying their cash management approach and strategy, their financial assets and liabilities were considered. The entire project focuses on the saving habits in poor households and also listed the factors that caused dependency of the poor on formal and informal financial intermediaries for obtaining credit. The results were documented and reported in 2013.

CRISIL (2013) estimated the extent of financial inclusivity in India and presented it in the form of an index. It made use of the non-monetary aggregates for the sake of calculating financial inclusivity. The aspects that CRISIL took into consideration involved:

- The number of individuals having access to various financial services, instead of focusing on the amount of loan.
- 3 parameters of the index: branch, deposit, and credit penetration. These were revised annually and with some ameliorations being done with regards to insurance and microfinance being added.

The above report accentuated the following:

- One in 2 Indians has a savings account and one in 7 Indians has access to banking credit.
- CRISIL Inclusix pan India was at a low of 40.1 in 2011, out of 100. Full-proof information about financial inclusion in rural and urban areas was made available by CRISIL.

RBI (2014) examined the financial services accessible by small businesses and low income groups. RBI, like other financial institutions, had set up committees that sought to design tenets for maximum financial inclusivity and financial proliferation. The committee also framed policies for vigilance over the progress of financial inclusivity in India.

Following measures were proposed by the committee for an accelerated rise in financial inclusion in the Indian Economy.

- Providing a functioning e-bank account.
- Distributing e-payment access points for seamless deposit and quick withdrawal services.
- Providing credit products, investment and deposit products, and insurance and risk management products.

The main conclusions of the report elaborated the following points:

- A majority of small businesses did not seek help from formal financial institutions to sustain themselves.
- Almost 50% of the rural and urban population did not operate bank accounts.
- The period 2011-12 experienced a sharp decline in the savings component of the GDP.

The committee issued several measures to deal with the above issues.

- Each individual should possess a universal e-bank account with Aadhaar registration.

- Setting up payment banks.
- State Finance Regulatory Commission should be responsible for giving financial regulators a platform for exercising proper control over monetary operations and increased focus on unanimous decision making.

A Financial Redress Agency or FRA was suggested to be formulated to cater to customer grievances with regards to financial products and services.

Juan Sánchez-Fernández et al. (2014), in their paper, 'Role of gender on acceptance of mobile payment', have discussed to a great extent the influence of gender on the comfort level of the users with regards to mobile payment. This paper quite articulately deals with our concern.

The aim of the research was to try to elucidate the intention to adopt mobile payment systems, without any history of it in the country of study. A Web experiment on a sample was conducted to assess their proposed behavioural model, of which gender was a determining model.

The empirical results vouched for the fact that the behavioural model adopted by the authors appropriately adjusted itself as per the sample characteristics. This also proved that the gender of the user brings in significant differences in the aspects related to ease of use and efficacy of mobile payment systems, thereby relating it to usefulness, attitude, and intention to use the payment system, along with the trust factor involved in mobile payment systems.

This paper, thus quite successfully, gives us a background of connection between gender and mobile payment system, and the fact that gender lays an influence on the associated factors of mobile payment.

Dapp (2014) has explained FinTech as being a digital revolution in the financial sector. He has interpreted it as an algorithm-based banking with a tinge of the human touch. The whole paper is elucidatory in nature. The author attempts to explain various facets of FinTech, correlating it to Web-based services. Thomas has also explained the structure of the digital cycle.

Shah et al. (2019) conducted a very recent research, studying the user perspective with regards to adopting the model-mechanism of FinTech. They have explained that the younger generation looks forward to a more automated system when dealing with their financial transactions. They conducted a research assessing people's preferences of seeking help in financial planning or carrying out lending–borrowing transactions through an automated system, and tested it using ANOVA. The results, on the whole, exhibited that there is large scope for India to prosper on the FinTech front, because the younger generation thinks of it positively.

Saksonova and Kuzmina-Merlino (2017), in their paper 'FinTech as Financial Innovation', have explained various important aspects that other research papers have not sufficiently discussed. The authors have seen FinTech and banking institutions in a stance of competition with each other, both in advanced economies and emerging markets. The paper evaluated the level of FinTech proliferation and development in Latvia when compared to Europe. It draws a comparison between conventional financial institutions like banks, insurance companies, and asset management and investment companies and companies using FinTech. It also assesses how ready consumers are to use FinTech services. The authors have used a survey to check how well aware the consumers in Latvia with regards to FinTech services. It checks their comfort level with using services and also the current satisfaction level of consumers with the banking system. The survey results proved in favour of the null hypothesis, whereby the respondents were generally unaware about FinTech and felt comfortable using banking services, therefore innovation in the finance sector was seen as a far-off destination. The paper concluded by making some recommendations for managers in FinTech organisations.

Gurung (2018), in his paper 'FinTech: A messiah for the ailing banking industry in India', has seen FinTech as a collaborator with the banking sector, whereby the benefits of FinTech can be used to leverage the latent capability of the Indian economy. Increasing financial inclusion and dealing with non-performing assets (NPAs) have been 2 of the most important tasks that numerous 5-year plans have sought to do, but have sadly failed to do. According to the author, FinTech solutions can help banks in dealing with the historical NPA situation. Automated data management is likely to improve this situation. Industry-wise trends of NPAs can be traced. Potential NPAs can also be traced. The author has mentioned the block-chain technology and has accentuated the fact that it is still in the developmental

phase for both banks and FinTech companies, and several collaborative projects are taking place to leverage the potential of DLT and block-chain. The author has explained about the need for cyber security and how it can be promoted through FinTech. The potential risks of cyber-attacks can be realised at an earlier stage and the prospective risk can be typically minimised.

Lacasse et al. (2016) have explained the models of new types of financial services. Yet another aspect of the paper sheds light on the presence of digital platforms in the context of financial services. The authors have accentuated the arena that deals with newer and more sustainable business models. Crowd-funding has been paid special heed to in this context.

Peru can be considered an example of an economy that has sought refuge in a mobile-based mechanism. According to Bloomberg, Peru, which is an emerging economy, has a population of 30 million people; the number of mobile phones in use is 32 million. Most Peruvians do not operate a bank account, and thus are more comfortable using a digital payment system. A company which is owned and operated by a leading financial institution in Peru launched a mobile payment mechanism with the name 'Bim'. It brings together online customer interfaces on one common platform (Elton, 2015).

Devi and Jeyakumari (2020) have published a recent study in February 2020, where they have dealt with the main determinants of customer satisfaction with respect to Google Pay. The authors have highlighted the fact that Google Pay had been receiving negative feedback over the past few months. The major objectives of the research revolved around studying factors that motivate customers to use Google Pay. It revolved around acknowledging the problems that Google Pay users were facing.

The authors have used a combination of primary and secondary data to come to a conclusion. In the context of this research, the null hypothesis was accepted, thereby signifying that no relationship exists between gender of the respondent and satisfaction received from Google Pay services.

Our analysis will deal with the security-related aspects of digital payment systems and the extent to which it has a significant relationship with the gender of the respondent. The hypothesis testing is explained in the data analysis section.

Sánchez-Fernández et al. (2014) have discussed to a large extent the involvement of gender on the acceptance of mobile payment systems. The aim of their research is quite similar to this paper. They sought to analyse the influence of gender on respondents' acceptance of mobile payment systems based on the behavioural model. They have considered other variables like subjective norms and social image. The authors have emphasised the moderating effect of gender. It has been proved that the effect of ease of use was higher among males than females.

This approach highlights the fact that the more easy the use of the tool is, the greater the efficacy and usefulness perceived by males. The authors have quite clearly confirmed the fact that relevance of gender gives a moderating effect on the intention to use mobile payment systems.

Research Perspective: Methodology and Specifics

The Point-Wise Account of the Research Objectives is as Follows

- To acquaint oneself with the foundational concepts associated with FinTech.
- To critically understand its success factors in the light of cashless economies.
- To elucidate exploratory research in terms of literature review, by a thorough analysis of secondary data available on FinTech.
- To understand the attitude of users of mobile wallets and digital payment apps, with the help of a structured questionnaire and primary research.

Primary Research

Primary research in this proposed work is carried out with the help of a structured questionnaire, which had been circulated online to several individuals who make use of mobile wallets and digital payments apps. The sampling technique followed is snowball sampling.

Snowball sampling, in this case, proved quite helpful, as locating active users of mobile wallets was not much of a manoeuvre. Those people who made use of such apps

were contacted; they further helped in spreading the online questionnaire. The number of respondents is 120. The desired sample size was successfully reached.

The total number of questions in the questionnaire is 18, out of which 5 questions seek to obtain basic demographic information. The 6th question simply asks the respondents to list their favourite digital payment application; the remaining 12 questions include 4 multiple-choice questions and 8 questions that are research-focused statements. These have been tested on a 5-point Likert scale.

The analysis of the responses is carried out by applying descriptive statistics as well as inferential statistics. The percentage of responses is presented using colourful pie charts. Hypothesis testing has been carried out in inferential statistics.

Structure of the Study

Objective of Study: To understand the attitude of users of mobile wallets and digital payment apps, and their practices as far as online transactions are concerned.

Target Group: Users of mobile wallets and digital payment apps.

The sample size of the study is 120.

An online structured questionnaire using Google forms was designed. It contained 18 questions. Mostly, all respondents find it easy to fill online questionnaires.

Data Analysis

This section is entirely devoted to data analysis by the use of inferential and descriptive statistics, in terms of graphical presentation of data. Around 120 respondents were given an online questionnaire, wherein structured questions were asked, primarily to assess their attitude towards digital payment systems and mobile wallets.

Descriptive Statistics

A question-wise analysis of data is presented as follows:

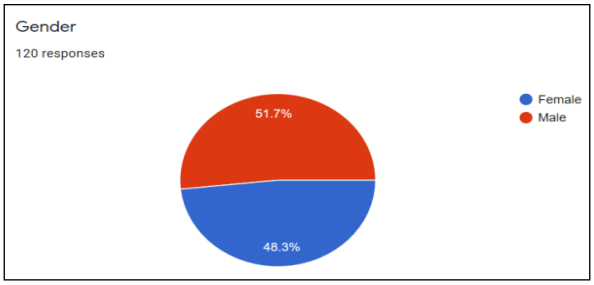


Fig. 3

Around 51.7% (62) respondents out of 120 were male and 48.3% (58) were female.

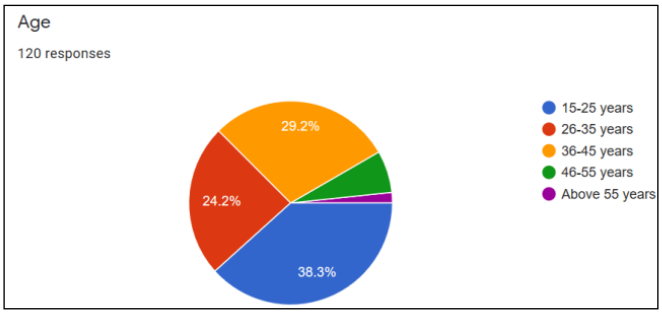


Fig. 4

Around 38.3% (45) of 120 respondents belong to the age group 15-25 years; 29 individuals fall in the 26-35 years group; and 35 in the 36-45 group. The remaining, 8.3%, comprises the rest of the 11 individuals in the other 2 age groups.

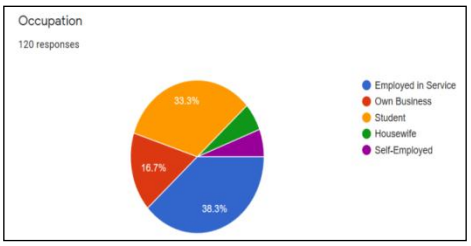


Fig. 5

A majority of individuals are employed in the service sector. The other categories are students and people who have their own businesses. Therefore, each of the occupations have shown participation in the digital payment system.

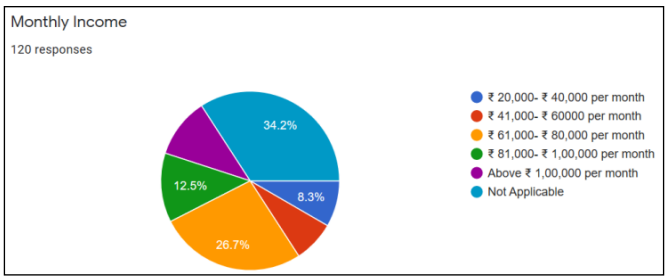


Fig. 6

Monthly Expenditure on all cumulative needs (Food, clothing, housing, transport etc.)

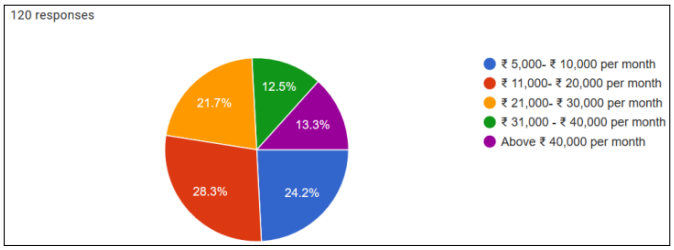


Fig. 7

Select your favorite Digital Payment App.

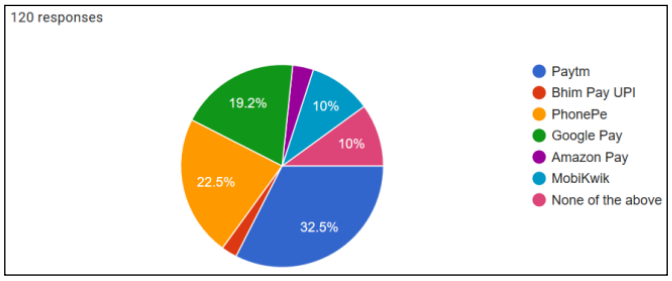


Fig. 8

A majority of respondents have selected Paytm as their favourite digital payment app. This can offer us several important conclusions when viewed from an analytical frame. The key factors affecting Paytm's success have been discussed in the literature review section.

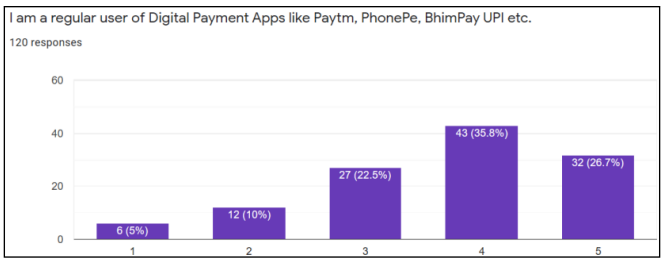


Fig. 9

Most respondents have agreed to the statement. This has been measured on a 5-point Likert scale.

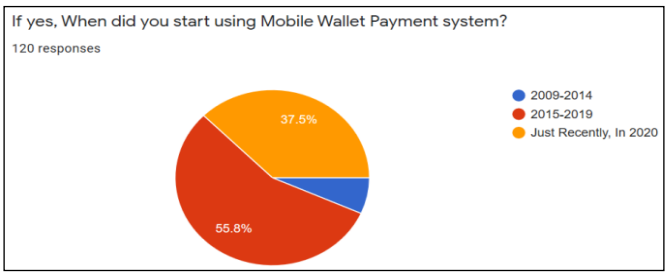


Fig. 10

The period between 2015 and 2019 is typically the one after demonetisation, so it can be stated with certainty that post demonetisation, the inclination of people towards using online payment apps has increased.

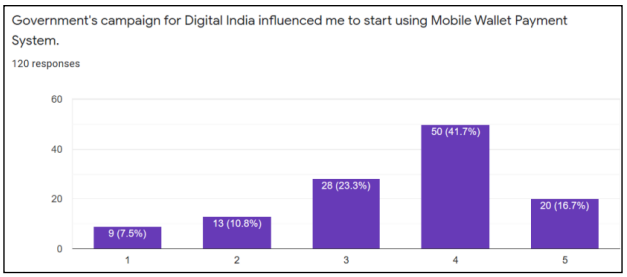
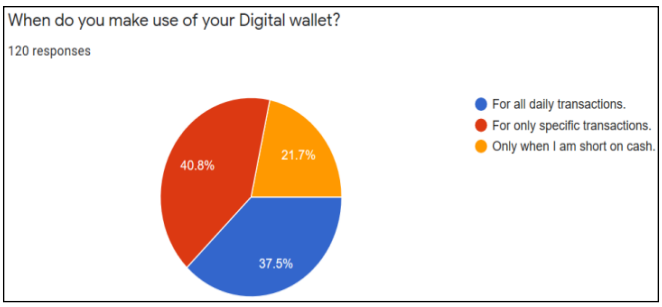


Fig. 11

Around 41.7% of the respondents have agreed with the statement.



Fig, 12

Most respondents use online payments for specific transactions.

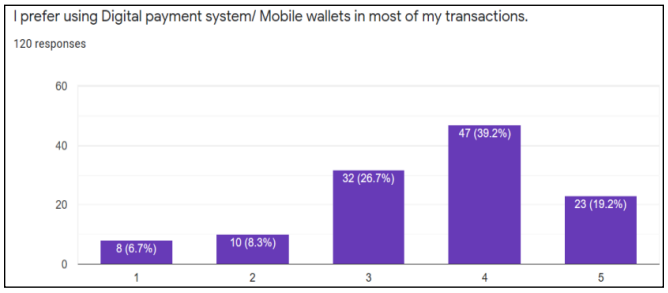


Fig. 13

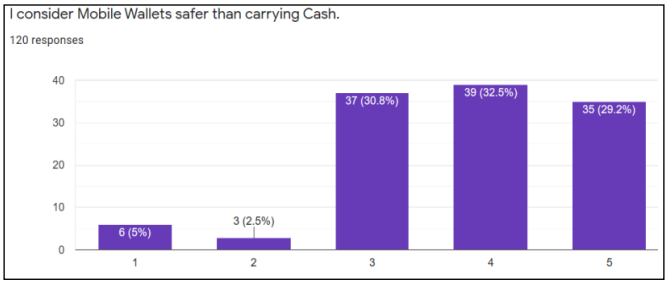


Fig. 14

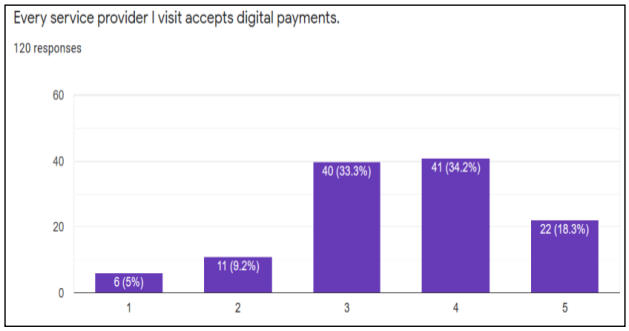


Fig. 15

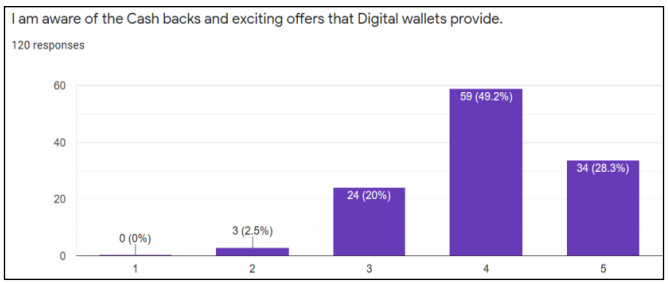


Fig. 16

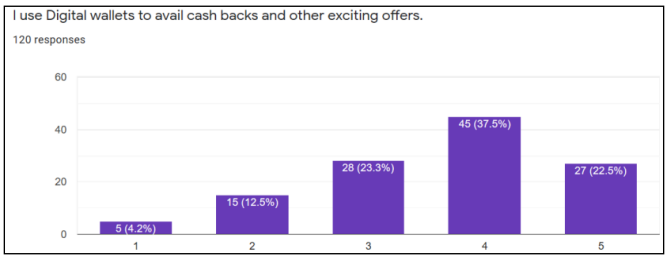


Fig. 17

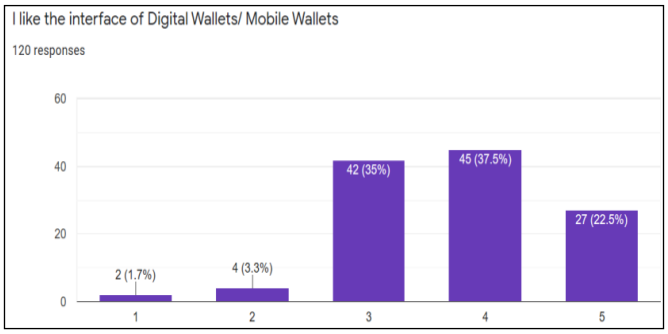


Fig. 18

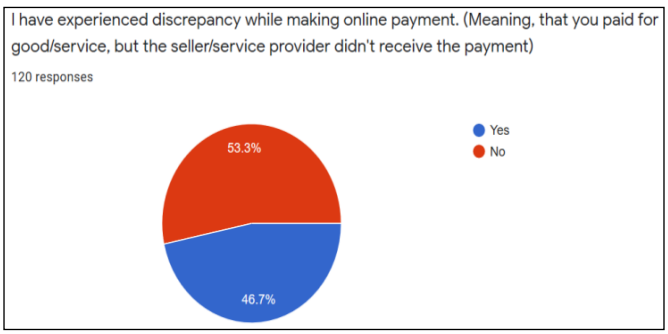


Fig. 19

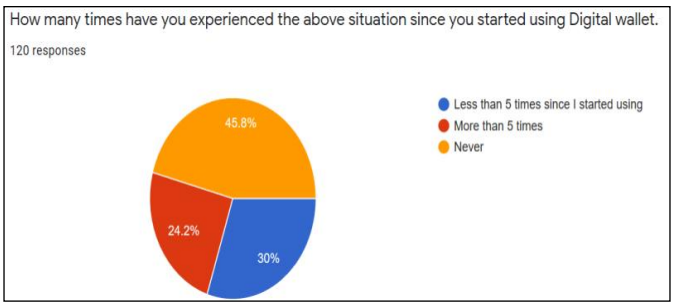


Fig. 20

Inferential Statistics

Primary Data Analysis through Inferential Statistics

Chi-Square Test

Null Hypothesis: Gender and user's perception of digital payment systems being safer than cash are independent or there is no association between the 2.

Alternative Hypothesis: There exists a degree of dependent relationship between gender and user's perception of digital payment systems being safer than cash.

Association Cross Tabs – Chi-Square Test

The following section will include the various cross tabs that have been generated using the chi-square test in IBM-SPSS software.

Table 1

Case Processing Summary						
	Cases					
	Valid		*Missing*		*Total*	
	N	*Percent*	*N*	*Percent*	*N*	*Percent*
Gender * SafetyConcern	120	100.0%	0	0.0%	120	100.0%

All of the 120 respondents have been considered suitable under the purview of study. Hence, the above table reflects that no value in the table is missing and all 120 respondents have been included in the analysis.

Association Cross Tab 2

Table 2

*Gender * SafetyConcern Cross-Tabulation*								
			SafetyConcern					*Total*
			SD	*D*	*N*	*A*	*SA*	
Gender	Female	Count	3	3	25	13	14	58
		% within Gender	5.2%	5.2%	43.1%	22.4%	24.1%	100.0%
		% within SafetyConcern	50.0%	100.0%	67.6%	33.3%	40.0%	48.3%
		% of Total	2.5%	2.5%	20.8%	10.8%	11.7%	48.3%
	Male	Count	3	0	12	26	21	62
		% within Gender	4.8%	0.0%	19.4%	41.9%	33.9%	100.0%
		% within SafetyConcern	50.0%	0.0%	32.4%	66.7%	60.0%	51.7%
		% of Total	2.5%	0.0%	10.0%	21.7%	17.5%	51.7%
Total		Count	6	3	37	39	35	120
% within Gender			5.0%	2.5%	30.8%	32.5%	29.2%	100.0%	
% within SafetyConcern			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
% of Total			5.0%	2.5%	30.8%	32.5%	29.2%	100.0%	

This table gives a comprehensive account of the percentage-wise analysis of gender in a row-wise arrangement, and that of the other variable in a column-wise arrangement. Respective percentages give a holistic account of the whole data involved.

Chi-Square Table

Table 3

Chi-Square Tests			
	Value	*df*	*Asymptotic Significance (2-sided)*
Pearson Chi-Square	13.182[a]	4	.010
Likelihood Ratio	14.519	4	.006
Linear-by-Linear Association	5.414	1	.020
N of Valid Cases	120		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 1.45.

Results as per Chi-Square Test

The above table gives the Pearson chi-square as 13.182. Assuming the significance level of 5%, taking alpha as 0.05, since the asymptotic significance value (p-value) turns out to be 0.010, which is less than the standard alpha value, the null hypothesis is rejected.

The null hypothesis states that there is no association between gender and user's perception of digital payment systems being safer than cash. We will reject the null hypothesis. To put it simply, the result is *significant* – the data explicitly suggests that the 2 variables, gender and user's perception of digital payment systems being safer than cash, are associated with each other.

Therefore, the null hypothesis is rejected.

Second Round of Hypothesis Testing

In order to confirm our results we shall apply yet another non-parametric test to our data. Non-parametric statistics are regarded as distribution-free statistical tools because the constraints pertaining to assumptions about the distribution of the population are not considered. As a result, such tests can easily accommodate datasets that might exhibit a degree of variance. This test is called the Mann-Whitney U test. This test is used to compare differences arising between 2 independent groups, when the dependent variable in question is ordinal. The independent variable can be a nominal variable.

In the case pertaining to our data, the independent variable (gender) is measured using nominal scale, and the other variable, dependent (user's perception of digital payment systems being safer than cash), is measured on an ordinal scale.

NPar Tests

Table 4

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
SafetyConcern	120	3.78	1.055	1	5	3.00	4.00	5.00
Gender	120	1.52	.502	1	2	1.00	2.00	2.00

Test Statistics

Table 5

	SafetyConcern
Mann-Whitney U	1323.500
Wilcoxon W	3034.500
Z	−2.610
Asymp. Sig. (2-tailed)	.009

a. Grouping Variable: Gender

Results as per Mann-Whitney U Test

This section of the output gives the values of the Mann-Whitney U test. The observed Mann-Whitney U value is 1323.500. Since the sample is relatively larger, we will consider the asymptotic significance value of 0.009 to give the data statistical power. The specified alpha value is 0.05. Since the p-value of 0.009, which is less than 0.05, the null hypothesis is rejected.

Thus, we have sufficient evidence to conclude that gender and user's perception of digital payment systems being safer than cash have a degree of association, and it is a determining factor for the dependent variable.

Thus, the 2 variables under question have a degree of association, thereby substantiating the fact that gender is a function of perception of digital payment systems being safer than cash.

Taking into consideration the previous research papers that have been discussed in the literature review section, we can say that Juan Sánchez-Fernández et al. (2014) emphasised the moderating effect of gender on acceptance of digital payment systems; we can say that this is true for our research. On the other hand, the paper by P. Saravana Devi and Dr. M. Jeyakumari (2020) that accepted the null hypothesis also nullified the influence of gender on satisfaction received from a certain digital payment system, which does not match with our results since the null hypothesis in our research has been rejected outright, and the results have been proved using 2 statistical tests.

Conclusion

FinTech is a very significant concept in the financial services industry. There have been several researchers who have depicted their perspectives on FinTech as a very revolutionary ideology. This research work has helped establish several conclusions. The point-wise account of conclusions is as follows:

- FinTech explains the amalgamation between technology and financial services that seeks to act as a catalyst for increasing financial inclusivity. It has brought about the much needed paradigm shift in the financial sector.
- FinTech can be considered as a competition in the league of financial institutions. Several research papers have seen it that way and the reference to the same has been given in the literature review section.
- Gender is considered an important aspect when the perception of users towards safety of digital transactions is concerned, in comparison to carrying cash. The chi-square and Mann-Whitney tests explain the same.

Future Scope of Research

Further research in this arena can possibly incorporate all the psychological influences on the users while making payment using digital wallets. This can help in developing a minute and more specific understanding of FinTech from a more magnified frame. Psychological influences play a very crucial role, and at the same time, they also have discrete marketing implications. Companies and applications can use these insights to develop a more customised experience for users, and this shall help in keeping track of all the dynamism in the financial industry.

Limitations

Following are some limitations that are observed.

- Secondary data from open sources is slightly difficult to verify, which is why the authenticity cannot be tested with certainty, even for published works.
- In the primary research, there is a possibility that the respondents might have answered a question without understanding its actual connotation; such errors are beyond the researcher's control.
- The theoretical elucidation about FinTech does not sufficiently explain the practical applications and implications. Thus, a practical edge to this arena can only be tested in the environment or institution where FinTech is largely deployed.

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