

Digital Payments- A New Digital Age of Payments

*Harsimran Kaur (Research Scholar, Multani Mal Modi College, Patiala)

**Dr.Deepika Singla (Assistant Professor, Multani Mal Modi College, Patiala)

Abstract: In today's world, the world has become increasingly connected through various digital platforms. It is due to the rise of technology and the internet. Moreover, there have been various developments to make payments via the internet as well. These are highly secured services offered by world-class finance technology or fintech companies. India has several such online payment startups, and most of them support all the diverse methods available to make such digital payments. Digital payments started to pick up pace with the growth of e-commerce companies followed by emergence of digital wallet companies Such as Google Pay, Phone pe, amazon pay, paytm, payzapp, Bhim, Yono pay etc. The focus of this paper is to study challenges faced by financial institutions and to explore various innovations in digital payments.

Key words: Digital Payments, Technology, Digital age

Introduction: Digitization and technology innovation are reshaping of our world which results into transforming industries and economies by reinventing traditional model. These unstoppable forces are having a intense impact on payments. As new real-time payment options come out and legacy systems are modernized, the payments industry is experience a shift from paper to digital methods. This drift is being reinforced by the current challenging environment which is forcing businesses to rely on the digital environment than ever. In the era of digital payments, various initiatives such as an innovation hub, a regulatory sandbox and offline payment solutions are in progress to ensure that in the digital ecosystem, India maintains its position as a leader. The new-age customer expects transactions to be seamless, quick and personalised. The convenience and simplicity offered by e-commerce has altered consumer behavior and extended quickly to the payments market as well. Consequently, this segment has undergone drastic changes in the past few years. Payment companies have been increasingly capitalizing the power of big data, analytics and the cloud to create customer-centric models. This has created a new marketplace, in a new era in the payments market. Today, the global payments market has reached a point which is largely driven by years of under-investment by traditional players and a wealth of new opportunities capitalized by new competitors. Regulations such as capital prudential norms, consumer protection, Payment Services Directive (PSD2) , data privacy, digital trust and security have acted as catalysts in innovation and investments, which enables next-generation banking and payment services. They are also exploring collaboration with FinTechs Companies to expand, create and identify sources of value and revenue multiplication.

Global Digital Payment Market Trends and Drivers:

The global market is at present experiencing growth on account of the increasing sales of smartphones and growing demand for improved consumer experience. Apart from this, Many initiatives are undertaken by

governments of various countries to promote digital payments is also inducing the growth of the market as it helps them cut down tax frauds and maintain money trail. For instance, the Government of India launched the Digital India initiative in 2015 after demonetization to encourage cashless transactions in the country. The increase of mobile payments and digital innovation has revolutionized digital payments due to the increasing adoption of advanced technologies, such as machine learning and Artificial Intelligence (AI), blockchain. Moreover, due to the coronavirus disease (COVID-19), governments of various countries have declared complete lockdowns. As the virus can be spread on different surfaces like paper, individuals worldwide are relying on digital payments at brick and mortar stores, as well as e-commerce websites, which is fueling the digital payment market growth.

The Covid-19 pandemic give rise to digital modes of payments, the Reserve Bank of India noted in its Annual Report 2020-21. The prospects for FinTech in India's financial system in 2021-22 will depend upon the extent of digital usage. The total digital transaction volume in 2020-21 stood at 4,371 crore, as against 3,412 crore in 2019-20.

Digital payments are getting a lot of attention everyday .In the coming years, we will witness more influence of futuristic technologies such as AI, Machine Learning and IoT (Internet of Things) will have a significant impact on developing customized digital payment solutions. Here are a some of the payment trends keep in mind that will shape the future of the digital payment ecosystem:

Portable payment devices: Portable payment are emerging as a secure method for consumers to purchase products or services by using advanced technology integrated into their smart watches, and wristbands. The tap-and-go payment method provides retailers and vendors with more secure and error-free payment methods. As per the report by Allied Market Research, the wearable payments market is estimated to reach \$1.37 Trillion by 2027 at 21.7% CAGR.

Increase in e-commerce transactions: Due to the restriction on movement during the lockdown, people heavily relied on e-commerce for the purchase of groceries, health products and other essentials. Even now as the lockdown has eased, consumers prefer to shop online as they see the advantage of several choices, access to remote commerce and digital payments.

Tap and go payments: Digital and contactless payments around the world increased in 2020. In India, even smaller cities, where the use of cash is massive, have also witnessed increased adoption of contactless payments. The benefits of paying with a simple tap while maintaining social distancing, consumers will prefer to use it for many other reasons such as convenience and security. To promote contactless transactions in the country, RBI has Increased limits for contactless card payments from ₹2,000 to ₹5,000.

QR code payments: Payments via QR code will continue to prove its flexibility, especially in emerging markets, primarily because they are easy to use and inexpensive to implement. This type of payment is expected to be easier to use as it only requires an application that allows it to be used in one establishment.

Moving towards cryptocurrency: In the past year, much more serious issues have been observed with cryptocurrency alternative assets and payment classes. In 2021, the number of investment banks adopting the crypto ecosystem is expected to increase significantly. Cryptocurrencies are touted as digital gold for millennial investors.

Review Of Literature:

(Cheng, Hsi and Kuo,2002) in this research paper authors explore the advantages and limitations of several different electronic payment systems mainly online credit card, electronic cash, electronic checks and small payments. In this study, the authors compare the four types of electronic payment systems in terms of requirements of merchants and customers, the appropriate business environment and the future potential of expandability. For this purpose they established the reviews which are backed by sources and expert's opinions. To serve this, data was collected from market surveys, technical journals, product catalogs, company reports and magazines. It was found that online credit cards are relatively popular and safe method of payment where as electronic cash will replace by smart cash. As per the authors recommendation E-checks have higher cost and do not protect the users' privacy so it is not suitable for consumers and small payment have neutral effect on payment system.

KawaldeepKaur (2014) recognizes the present sentiments and the future possibilities for the sector. This paper approaches the sector premise what has and is occurring in the sector, distinguishes certain challenges and openings that the sector will observe in the time to come and how banks need to begin progressing in the direction of putting resources into making an aggressive edge for themselves and their customers to outlive rivalry that may be rising up out of every other sector.

Dr.GomathyThyagarajan(2015) indicated mobile banking is today the biggest developing innovations in present day retail banking. Through survey of past writing in this field, the writer attempts to make sense of the most significant viewpoints that spike the development of mobile banking in the nation and over the globe. Mobile banking is a distinct advantage, while customers use it dominantly for checking parities and transferring funds starting with one record then onto the next, the conceivable outcomes of mobile banking are colossal.

Vidya Shree,Yamuna and Nithya Shree, 2015) in this research paper authors talked about the impact of Paytm and PayU Money of digital payment system on customers and also explained the problems encountered if any faced by the users. The authors had analyzed both the popular online mode Paytm and PayU Money payment system in their study because Paytm has now India's largest mobile commerce platform with multi-functionality like electricity bill, telephone bill, mobile recharge services, shopping facility, DTH recharge and others utility bills payment etc. and by the PayU Money application customers can easily and securely pay their payments. For the explorative study the data collection was done by primary and secondary sources of data. The sample size was 30 customers of PayU Money and 20 customer of Paytm belonging from the different age group. The results from the collected data showed that the people are more aware about the PayU Money and Paytm due to the quick, safe and easy payment system. The study also

stated that users should be more careful about the offers, cash backs and other related refund policy of PayU Money and Paytm.

Baykod P., Chaya U. et al. ,(2016) in this paper authors studied the current technical infrastructure and adoption status of digital payment system in Nelamangala and Bidadi region of rural Karnataka to check the variable's influence on the customers' adoption of electronic payment services. Researchers also illustrated that straightforwardness and corporate administration are certain essentials for strong financial improvement. To increase the fast adoption of digital payment system, the difficulties related the usage of UPIs and portable wallets need to be addressed and enhanced securities of transactions need to be ensured. This would prompt more potential improvements and greater help for the acceptance of digital payment system in rural area also. Though while reviewing this paper it was identified that the lack of training on use of digital payment system as the major reason for less adoption of the system. After the analysis the authors also recommended that self –help groups, Rural social foundations ,Gram Sabhas, wellbeing specialist, town development officers anganwadi laborers follows digital India Campaign should be carried nationwide on a mass scale to proliferate the advanced India crusade both in country and also urban region.

Shubhara Jindal (2016) investigate internet banking in India as it is today is an "absolute necessity have" rather than a "decent to have" include. Net Banking has advanced from simply banking data to the passage of creating E-trade industry and given the reception pace of such advances the computerized foundation of net banking supported by E-business is detonating. While it is developing quickly the paper centres around approaches to make this a more secure increasingly secure condition.

Ahmad Shah Z (2017) has the objective of the study to examine the role of digitization in transforming India in to a cashless economy. In pursuance of this objective secondary data was collected through publication of (Reserve Bank of India) RBI, National Corporation of India (NCPI), journal and websites of government organization. It was found that after demonetization government impetus to digital transaction of high value currency notes and providing various initiatives but still majority of the transaction are cash based and cash is still king for Indian consumers. On behalf of this paper the level of achieving 100% cash less society will not be possible in near future. Thus, Cash continue to play an important role for discrete transactions, especially in the most remote areas and informal sectors.

(Vally & Divya, 2018) the main objective of this research paper was to study the positive impact of Digitization on payment system and authors also examined that effect of adopting of digital payment impact on consumers of the banking sector of India. For this purpose primary data was collected which is taken from 183 respondent in Hyderabad and secondary data through questionnaire. The responses from the respondent were analyzed by using the simple percentage analysis and chi-square test. The results of this study indicated that the deployment of technology for digital payments have improved the performance of banking sector and able to achieve the motive of cash less country. Banks should take effective measure in creating awareness towards the effective usage of technology. They gave emphasis to the percentage of awareness on maximum

utilization of technology and banks should take effective measures in creating awareness towards the effective usage of technology and security.

Objective:

- To study the challenges of digital payments faced by various financial institutions.
- To Explore the global trends of digital payments innovations.

CHALLENGES

Financial institutions are faced with a host of internal and external challenges that need to be considered when planning their strategic roadmap for payments.

EXTERNAL

- **INCREASING MARKET COMPETITION:** Many banks are facing tough competition from new digital payments providers and digital disruptors, payment initiation service providers (PISPs) and account information service providers (AISPs). To catch up with disruption in technology and innovative services offered by these new entrants, banks need to be more agile in implementing innovations. However, most banks today lack the technological ability to implement at scale.
- **INCREASING REGULATORY PRESSURE:** Financial and regulatory reforms are only increasing and will continue to stimulate competition between banks, requiring them to respond quickly to market trends. According to FinTech research firm Medici, banks and financial institutions spend approximately US\$80 billion globally on governance, risk and compliance, each year. This figure is estimated to touch US\$120 billion by 2021.⁹ Regulations such as AML and the Foreign Account Tax Compliance Act (FATCA) require banks to further strengthen infrastructure and controls.
- **INCREASING DATA AND FRAUD RISK:** Increased real-time transactions will expose banks to potential and new cyber threats in the form of real-time fraud and money laundering.
- **INCREASING PAYMENT CHANNELS:** Voice first, augmented reality (AR), VR, contactless and open payments are fast gaining importance and forcing banks to upgrade their ageing acquisition service models.

INTERNAL

- **INABILITY OF LEGACY SYSTEMS TO TAP INTO NEW REVENUE STREAMS:** In most legacy systems, existing business process layers are unable to accommodate futuristic demands. The technology landscape in most banks is also no match for the newer, modular systems. The core of

most payments systems (execution layer) in banks was built for a different era in banking—when bandwidth was scarce, processing was not done in real-time and the networks were closed—therefore, banks are unable to accommodate futuristic demands. While harmonization of messaging standards with ISO 20022 will bring in enhanced data capabilities, most financial institutions lack the ability to translate this into insights and new services.

- **LACK OF EFFICIENCY AND CAPACITY:** Transaction margins are threatened by cost increase and revenue reductions due to higher competition and pressure on traditional commodity services. For example, SEPA is responsible for 5–10 percent of the cost increase. The cost increase is also due to the need to provide additional business functions and mandated capabilities and resources. New regulations and interchange fee also add pressure on traditional commodity services. Diversification of portfolios have only made banking systems and processes more complex.

INNOVATIONS IN DIGITAL PAYMENTS

AI and ML influence Digital Payments. Financial companies have been using Artificial Intelligence and Machine Learning to detect Fraud and automate processes but their capabilities are not just limited to this area. With the help of AI embedded tools one can: read customers' operations history, analyze their buying and spending habits, Predict their future activity.

There are a variety of uses in digital payment fields where AI can be helpful like:

- **Banking Chatbots-** Chatbots have proved to be providing an improvement in customer experience and when mixed up with the banking sector it would be helpful in solving user's payment issues and queries in a faster manner. Banks like ATB Financial and the Bank of America (BoA) have been early adopters of AI chatbots.
- **Payments through Social Media:** The earliest digital payment trend to be seen in the year 2021 was the combination of payments and social media. Facebook, Alibaba, whatsapp and several other companies are bringing payment solutions through messenger apps. Amazon has now followed suit by working on a messaging platform known as Anytime.
- **AI Bots on Facebook:** Financial companies and banks have installed AI bots on Facebook Messenger to process payments and offer personalized customer services. One such company to be performing this is American Express(AmEx). It has a dedicated chatbot on Messenger for sending transaction notifications and reward reminders to users
- **Biometric Authentication:** As the payments world becomes digital, threats to payment security become a very important issue to consider. Biometrics help identify and authenticate individuals based on recognizable, unique, specific, verifiable data. There are different types of biometrics such as Fingerprint Scanners, Facial Recognition, Voice Identification, Eye Retina Scanners
 - According to market forecasts from Statistics Market Research, the biometrics market is worth \$ 76.64 billion by 2027, after growing at a CAGR of 18% from \$ 17.28 billion in 2018. In the banking and financial sector, the biometric technology market is

projected to grow at a CAGR rate of 16.2%, which will account for more than \$ 7 billion by 2025.

- **Cloud Based Payments :** One of the biggest challenges for businesses is payment delays, which negatively impacts overall business operations. However, future cloud technologies can solve this problem by using a network of remote servers available on the Internet. Cloud-based digital payment technology can be used for a variety of purposes, including Automatic payment, e-invoicing , Payments can be sent and received with one click. Cloud-based ERP accounting solutions provide business flexibility to secure financial information. This saves a lot of effort and time. Also, there is no need to manually track the invoice. The cloud facilitates automation, reducing manual processes and human error. In addition to billing and automatic payments, cloud computing allows you to send and receive payments with a single click, saving you relationships with your customers. Automation helps increase the transparency and visibility of all transactions made by customers. Customers are notified in real time to verify that the number is correct, eliminating the possibility of a dispute. 。
- **B2B Digital Payments:** With the digitalization of payments, the number of B2B transactions are on a rise. The US B2B payments market alone is valued at \$25 trillion and is growing at a CAGR of 5.8%. Recently customers have indulge themselves in the habit of faster and convenient payment processes. Due to this they are expecting the same level of service from the B2B payments and transaction banking. This is the reason customers are heavily demanding for personalization, customization, and for reconstruction for the corporate world. To achieve this state B2B companies are supposed to integrate finance into their own payment systems, which would influence B2B buyers to establish relationships totally with the business that offers such an environment. The B2B digital payments have the following benefit such as payment transparency, 24*7 availability, affordable payment costs, option of last minute payments. The B2B payment system will provide you facilities like integrating digital payments, digitizing payment scheduling, invoicing, etc. The Business to Business Payment system is a transparent system on which you can depend to serve your consumers.

Recent Digital Payment Innovations in various countries

- Hong Kong based digital banking solution provider Wallyt has announced its partnership with NIC Asia Bank to launch We Chat Pay and Union Pay QR payments in Nepal. With 25,000 and more QR merchants all over the country, NIC ASIA Bank, FirstPay and Wallyt will work together to offer more digital payment service to meet the requirement of local merchants and users, and help make the country's economy a cashless economy.
- With the pandemic as everyone turned to ecommerce, a surge was noticed in the digital payment software and this motivated competition among the existing digital payment software providers. Like, in Indonesia, ShopeePay which is a digital payment service provider offers upto 30% cash backs on purchases done through their portal. That made Shopee's parent, Sea Ltd., one of the most successful

companies of the pandemic. As a result, its New York Stock Exchange-listed share price rose 395% in 2020.

- Xendit is the fastest growing digital payments infrastructure for Southeast Asia. It recently announced that it has raised US\$64.6 million in a Series B round led by Accel to deliver more secure and reliable economic success in the region. Altogether, the company has raised \$88 million in funding. Amid Southeast Asia's rapid digital transformation, Xendit is quickly bolstering businesses of all sizes, processing more than 65 million transactions with US\$6.5 billion in payment value annually.
- According to the Credit Suisse Group AG online payment industry in India is going to reach \$1 trillion by 2023. The stagnant market of Credit Cards needed a push which was given to it by the introduction of **vCard** which is a digital credit card incorporating multiple tech innovations. It is different from the plastic credit cards as it is the only Credit Card using UPI, which is said to have a larger acceptance for both P2P(People to People) and P2M (People to Merchants) payments. Digital cards are more secure than plastic credit cards as there is no chance of physical card theft. There is no card data on the device and the mobile phone acts as an authentication device.
- The COVID-19 pandemic has definitely had a positive impact on the online payment industry as it made the consumers embrace e-commerce. A trio of startups — **Stripe, SumUp**. Stripe (Californian startup firm), Sum Up(British firm) together were able to raise more than 1.5 billion euros in the last week which put them in the competition with the other giants of this industry like Alipay, PayPal, Apple Pay and Visa.
- Digital payments are our future. It is very much expected that in coming years we will see payment methods transitioning from physical cash to the digitalization in various ways. During that period many new trends will appear and disappear. But it would play a vital role in shaping our future payment methods. Many of the above mentioned trends will also play a major role in that process. But only with time we would be able to know that which digital payment trend would stay and influence the market and which won't.

CONCLUSION: In the age of digitalization Digital payments provide customer flexibility to make payments simpler and more convenient so that customers can use it from anywhere and at any time. These are good alternatives to traditional payment methods and reduced transaction time. After demonetization and pandemic time, people slowly began to accept digital payments and even small retailer's shop owners began accepting payments through digital mode. Technological innovation has benefitted the industry also. In the past 10 years, the country has seen much advancement in the digital payment industry. The advent of the younger generation that has grown up with smart phones and data has allowed rapid adoption of technological advancements in digital payments. India is considered to have a more evolved digital payment ecosystem compared to 25 other countries including UK, China and Japan. FinTech players and other stakeholders of the payments ecosystem are likely to give rise to a new hybrid model of finance that will help address credit gaps and ramp up last mile outreach by leveraging on the geographical footprint of banks and technological know-how of FinTech companies.

References:

<https://www.thehindubusinessline.com/money-and-banking/covid-19-pandemic-fuelled-digital-payments-modes-rbi-annual-report/article34657571.ece>

<https://www.ecommerce-nation.com/digital-payment-trends-2021/>

Cheng, Hsi and Kuo, 2002 Electronic payment systems: an analysis and comparison of types Technology in Society 24 (2002) 331–347

Vally & Divya, 2018 A study on Digital payments in India with perspective of consumers adoption International Journal of Pure and Applied Mathematics Volume 118 No. 24 2018 ISSN: 1314-3395

Byakod, P. R., Chaya, U., Kulgude, P., Sharma, A., Singh, P., & Mazumdar, C. Sen. (n.d.). A Study on Penetration of Digital Payment System in Selected Areas of Rural Karnataka. UAS Journal of Management and Commerce, 4(2), 18–21. Retrieved from [http://www.msruas.ac.in/pdf_files/Publications/MCJournal s/August2018/Paper3.pdf](http://www.msruas.ac.in/pdf_files/Publications/MCJournal%20s/August2018/Paper3.pdf)

Kawaldeep Kaur, Neetu Sharma and Sahil Kapur (2014) Banking Industry: Indian Scenario International Journal of Business Management.

Dr. Gomathy Thyagarajan (2015) Mobile Banking – A Review IJMSRR

Shubhara Jindal (2016) Study of E-Banking Scenario in India International Journal of Science and Research (IJSR)