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`Digital Payment Services: A Comparative SWOT Analysis of Indian and International Payment Systems- Assessing Strengths, Weaknesses, Opportunities, and Threats

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Abstract:

Fintech startups have been a revolutionary step in making an economic system easier through the introduction of the digital payment system, a technology that has changed and made everyone's life easier. The paper aims to explore the factors responsible for the advancement of technology and management, thereby conducting research to compare how Indian digital payment startups like Bharat Pe and Paytm are setting themselves up to compete with international digital payment systems like Google Pay and PayPal. To identify pertinent topics and create a framework for SWOT analysis, this study will employ a qualitative method and thematic analysis. This article will help managers understand the changes that must be made from a technological and managerial standpoint to foster an inclusive environment in the sector. Academicians will benefit from this study as it will expand the existing literature on banking, finance, and management.

Keywords: Digital Payment System, India, International, Qualitative, SWOT.

Introduction:

Digital payments have revolutionized the nation's landscape. Digital payment is a real-time payment system. Some of the most prominent digital payment platforms include Bharat Pe, Phone Pe, Paytm, Google Pay, and others. Furthermore, certain companies have taken the initiative to make digital payment systems accessible to teenagers, such as Fam Pay and Akudo. Due to its convenience and user-friendly nature, digital payment has gained widespread popularity in India. It enables users to transfer money between different banks, regardless of their account holders' banks. In a country with 1.4 billion people, digital payments have 260 million users, according to Forbes (Kapron, 2023). Additionally, over 118 billion transactions were processed globally in 2021, representing an increase of 64.5% year over year. By 2026, 427 billion transactions are anticipated to have occurred (Chadha, 2022). From online shopping and airline reservations to buying groceries or fruits and vegetables from roadside vendors, digital payments deliver a frictionless payment experience. The system has

proven advantageous for both marketers and consumers, thanks to its round-the-clock availability, instant transaction confirmations, easy bank account linking, real-time money transfers via NEFT and RTGS, and simplified bill payments. Developed countries particularly appreciate digital payment for its ability to save human resources and time, increase sales regardless of working hours, simplify monthly reporting through automatic receipts, and ensure end-to-end SSL security for transactions.

Since the introduction of digital payments, countries have been transitioning towards a cashless economy. The Digital payment system, while offering numerous benefits and conveniences to users, is not without its drawbacks. Firstly, digital payment relies on internet connectivity, which can pose challenges in areas with limited or unreliable network coverage (The Economic Times, 2023). Additionally, digital payment imposes transaction limits, including maximum amounts and the number of transactions per day, which can restrict larger or more frequent transactions (Ghosh, 2023). Technical glitches, system failures, or downtime can occur on digital payment platforms, leading to delays or transaction failures (Desk, 2022). Some digital payment apps may also have compatibility issues with certain smartphones or operating systems, limiting user options and convenience (Sarkar, 2020). Cyber threats such as phishing attempts, malware attacks, and account breaches pose significant security risks to digital payment transactions, underscoring the importance of user vigilance and adherence to security best practices. Recent statistics from the Union Finance Ministry state that over 95,000 fraud instances involving digital payment transactions were documented between 2022 and 2023 by cyber cells (Mudaliar, 2023) Hackers lure people into clicking on malicious links by sending them as part of emails or SMS messages, which leads to fraudulent actions (Aggarwal, 2021). Furthermore, due to limited digital and financial literacy, many people remain unaware of these issues, making it easier for scammers and hackers to extort money. These drawbacks highlight the need for continued development and improvement in the digital payment system to address these limitations and ensure a seamless userexperience.

Despite the growing prominence of digital payment systems in both Indian and international contexts, there is a limited body of research that conducts a comprehensive comparative analysis of these systems using a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis. While existing literature explores various aspects of digital payment, such as its impact on the Indian online payment landscape, adoption rates, and security issues, there is a lack of studies that directly compare the Indian digital payment system with its international counterparts using a SWOT framework. For instance, studies like Gupta et al. (2020) examine the factors influencing the adoption of digital payment in India, while Zhou and Santoso (2019) analyze the adoption of mobile payment systems internationally. However, there is a dearth of research that systematically assesses the strengths, weaknesses, opportunities, and threats of the Indian digital payment system in comparison to international digital payment systems. Conducting a comparative analysis using a SWOT framework would provide valuable insights into the unique characteristics and challenges faced by both the Indian and international digital payment systems. Such research could explore factors such as the technological infrastructure, regulatory frameworks, user adoption rates, transaction security measures, interoperability, and the level of competition in the market. By identifying the specific strengths, weaknesses, opportunities, and threats in each system, researchers can help policymakers, financial institutions, and technology providers gain a comprehensive understanding of the different digital payment landscapes and potentially uncoverbest practices or areas for improvement.

Research questions:

1. What are the technological factors that are responsible for the advancement of Digital payment systems?

a. What are the factors that are responsible for the advancement of technology toward the payment systems in India (Paytm and Bharat Pay)?

b. What are the factors that are responsible for the advancement of technology toward the payment systems Internationally (Gpay and PayPal)?

Literature Review:

Introduction to the Digital Payment System:

The digital payment system has emerged as a transformative force in the realm of digital payments, revolutionizing the way individuals and businesses conduct financial transactions. The system is a smartphone application that allows for the use of a predefined set of specifications for application programming interfaces, which enables seamless digital payments through mobile phones

(Gochhwal, 2017). It has been widely adopted by many countries as a means to develop their economies and transition towards a cashless society. Digital payments hold significant importance not only in India but also in other nations (PayPal, 2023). By offering guaranteed security measures, such as the non-sharing of financial information, digital payments have greatly simplified transactions. Popular digital payment apps like Paytm and GPay allow users to utilize their bank accounts as wallets, eliminating the need for separate fund storage and providing a simplified two-factor authentication process. They also benefit businesses by facilitating global reach and enabling various payment methods, such as QR codes. Additionally, the system offers loans to small-scale businesses, while for consumers, it allows domestic and international payments. Its universality makes transactions accessible from anywhere in the world, and users can link to multiple bank accounts for added convenience. For example, Bharat Pay was introduced in India to help small and medium-scale industries by providing financial support. The direct transfer of funds into bank accounts removes the need for intermediaries, streamlining the process. Consequently, digital payment eliminates the need to carry cash, reducing the risk of theft after adopting this payment system.

Digital payment system in India:

The launch of digital payments occurred on April 11, 2016. Prime Minister Narendra Modi's November 8, 2016, announcement of demonetization in India provided an opportunity for digital payment companies to broaden their services and move more quickly towards turning the "Indian Economic Cash"-based system into a "Cashless" one (Neema & Neema, 2018). Instant payments using mobile, online, and other applications offer both sender and receiver channels more secure, practical payment services. In order to make electronic payments convenient and secure, it enables banks and other participants to innovate and provide a greater consumer experience. In addition to providing advantages, payments made through digital payments also maintain a safe system of 1-click 2-factor authentication, Aadhaar integration, usage of the payer's smartphone for secure credential collection, etc. to minimize risks. Gupta et al. (2020) surveyed the determinants of digital payment adoption, highlighting factors such as perceived usefulness, ease of use, trust, and social influence. They found that ease of use and perceived usefulness significantly influence users' intentions to adopt digital payments. Similarly, Kumar and Chatterjee (2019) explored the factors driving digital payment adoption among Indian consumers, emphasizing the role of perceived risk, perceived usefulness, and trust. Also, a fintech company, Bharatpe, took the initiative to make digital payments accessible to small shops by doing a campaign in which their staff visited small shops and installed scanners. Several studies have examined the factors influencing the adoption of digital payments in India. Jha and Kaushik (2021) examined the impact of digital payments on small and medium-sized enterprises (SMEs). They found that digital payment adoption positively influences SMEs' business growth, financial performance, and customer satisfaction. Additionally, a study by Bhagavatula et al. (2021) explored the economic impact of digital payment on India's digital ecosystem, indicating that digital payment has accelerated digital payments, increased transparency, and facilitated economic growth. The introduction of the digital payment system brought with it a slew of benefits and distinct features that simplified the payment system. A person could now open accounts with various banks with just a single application. Payment transfers required two-factor authentication, which was a great feature regarding customer security and protection (Kakade & Veshne, 2017). Research by Joshi et al. (2020) examined security vulnerabilities and privacy concerns associated with digital payments. They identified challenges such as phishing attacks, unauthorized transactions, and fraud, emphasizing the need for robust security measures and user awareness. Furthermore, Raj and Reddy (2021) focused on the role of trust in digital payment adoption and highlighted the significance of trust-building factors, including perceived security, system reliability, and user satisfaction. While the digital payment system has witnessed significant success, several challenges and future directions for research have been identified. Venkatesh et al. (2021) emphasized the need to address technical glitches, network issues, and transaction failures to ensure seamless user experiences. Furthermore, studies have called for more research on cross-border interoperability,

scalability, and integrating emerging technologies like blockchain and artificial intelligence with digital payments.

The International Digital Payment System:

The digital payment system, initially introduced in India, has gained attention and adoption in developed nations as well. Developed countries recognize the potential of digital payment to enhance their payment infrastructure and promote financial inclusion. In countries like the USA and Canada, digital payment adoption began early with platforms like PayPal, which was introduced in 1998 as one of the pioneering online transaction platforms, and Google Pay, introduced in 2013. By leveraging digital payment, these nations aim to provide seamless and efficient payment experiences for their citizens. The system's ease of use, real-time transactions, and interoperability between banks make it appealing to individuals and businesses. digital payment's ability to facilitate QR code-based payments further simplifies transactions and improves convenience. Moreover, these platforms prioritize customer protection and provide guidelines, security links, helplines, and refunds to ensure a secure and reliable financial experience. The adoption of digital payment aligns with the efforts of developed nations to promote cashless economies and digital financial inclusion. As the global payments landscape evolves, digital payment serves as a promising solution for enhancing payment systems and meeting the changing preferences of populations. However, there are some limitations to consider, such as high chargeback fees, account suspensions, and potential delays in accessing funds. Additionally, certain digital payment systems like PayPal face restrictions due to legal and politicalbarriers in countries like India.

Methodology and Data:

Qualitative research plays a crucial role in addressing instructional purposes by exploring "how" and "why" questions, enriching the human experience, and capturing expressive information that goes beyond quantifiable data. It offers a better understanding of the subject matter, adapting to emerging perspectives. Considering these factors, we opted for qualitative research instead of quantitative research. In our data collection process, we primarily relied on secondary sources. Utilizing secondary data sources provides easy accessibility and cost-effectiveness, enabling longitudinal analysis and identification of trends over time. It allows for comparisons and reanalysis across different time periods, leading to new insights and conclusions. Secondary data collection involves gathering information from various existing sources such as published literature, reports, databases, and online platforms. This method complements primary data collection and enhances the depth of knowledge. Our approach involved an extensive range of secondary research sources, including reputable news articles such as The Times of India, Forbes, and The Economic Times. The researchers focused on collecting data from the period 2020 to 2023 to understand the transitional and technological advancements in the domain of digital payment systems both in India and internationally. Additionally, researchers considered significant

government announcements, such as the declaration of demonetization and the introduction of digital payments in April 2017 by the National Payment Corporation of India (NPCI). By utilizing secondary data and conducting in-depth analyses of news reports, research papers, and other data sources, we were able to offer a fresh perspective and gain comprehensive insights into the subjectmatter.

Analysis*:*

The researchers chose thematic analysis because it would help us identify, analyze, and interpret the data, and then we would be able to make subjective interpretations of the data. Additionally, researchers want to use thematic analysis to analyze the data. Thematic analysis is a qualitative analytical strategy that seeks to find and understand patterns or themes in the data that has been gathered (Braun & Clarke, 2006). By employing thematic analysis, researchers can uncover underlying meanings and gain a comprehensive understanding of the data. This methodology is particularly useful when examining complex phenomena or exploring subjective experiences (Braun & Clarke, 2021). By combining secondary data collection with thematic analysis, researchers can derive valuable insights from existing information and provide a deeper understanding of factors responsible for technological and managerial advancement for digital payment in India (Bharat Pay & Paytm) and internationally (Gpay and PayPal). To enhance the analysis presented in our paper, we conducted a SWOT analysis, which provides valuable insights into areas where a business can improve in relation to its competitors. SWOT analysis, an

acronym for Strengths, Weaknesses, Opportunities, and Threats, helps to identify both internal and external factors that may influence the success of a business. Opportunities and threats are external forces beyond a business's control that can impact its performance, while strengths and weaknesses refer to internal aspects that can be managed. Understanding these factors is advantageous when formulating decisions and strategies for the present and future. By utilizing secondary data, we will delve deeper into the topics of management and technological advancements in the context ofbusiness organizations.

Results:

Factors that are responsible for the technological Advancements in the Digital Payment system of India are as follows:

Single scanner for universal use:

Single scanner technology helps a person pay through a single scanner instead of separate scanners for different applications, which can be any Digital payment application. This technology has lowered the complexity of the payment system. A person now possessing any Digital payment ID can pay for all other payment applications. For example, Bharat Pe, which is a digital payment system, developed this technology, which has also made it easier for merchants to have a single scanner to receive from all other applications rather than managing a number of scanners.

Ease in International payment:

Earlier, if a person had to pay in foreign currency, to Indian rupee. They had to go to the bank or some private institutions like Western Union to get it converted, but with the introduction of real-time conversion technology, now a person can directly convert the currencies on the payment

applications. In this, the applications show the conversion numeric, which has developed the loyalty and trust of the customers towards the digital payment applications. For example, Paytm provides real-time currency conversion, through which a person can directly convert the currency just by paying a minimal conversion fee.

New-age tech solutions that are locally built:

Digital payment systems have undergone significant technological upgrades, prioritizing locally built and internally supported technologies. These advancements have resulted in the development of robust platforms capable of accommodating sales volumes up to ten times higher than the present capacity. The Indian fintech sector has made substantial investments to support the nation's objective of establishing a trillion-dollar digital economy. A notable example is Paytm, which has taken the initiative to build its infrastructure, proudly labeled as 'Made in India.' This endeavor aims to make digital payment services accessible to the masses and foster increased adoption rates.

Factors that are responsible for the technological advancements in the Digital Payment system Internationally are as follows:

Informative Interfaces for Security and Privacy:

Information interfaces are referred to as interconnections between the payer and payee or the payer and the application. The interfaces are also helpful in creating financial and digital literacy among customers. For example, in PayPal, every transaction is protected by advanced encryption. Several other significant features, like not sharing financial information, reporting a scam within 60 days,and getting refunds, have also been added.

Customer support and care:

Taking care of customers and providing them with the convenience of using an application is an essential part. The digital payment interface also provides its customers with general guidelines to guide them throughout the process of transactions. For example, PayPal has added several features like a customer helpline on how to use the

application and make transactions, a refund policy (if you report a scam and the money is not recovered within 60 days, then the application will bear the loss), security links for sending and receiving money, and so much more.

Unified digital payment system:

Unified digital payment systems enable customers to make transactions conveniently. South Korea has made the decision to create a single, unified digital payment system. The availability of all banks on one application eliminates the challenge of consumers utilizing several applications. The economy will become less complex and fluid as a result.

Diagram 1: SWOT Analysis of Digital Payment Systems in India (Paytm & Bharat Pe)

Strengths : 1. Diverse services in One platform 2. Round-the-clock availability. 3. Exciting Cashback and Other Offers 4. Collaborations with small merchants and providing them with loans	**Weaknesses :** 1. Access to Internet 2. Fear of fraud and preference for cash 3 . Lack of helpline numbers and assistance in cases of fraud 4 . Lack of technical knowledge
Opportunities : 1. From a cash economy to a digital economy 2. Integrations with digital crypto-currencies 3. Updating the current infrastructure 4. mergers with international banks and financial institutions	**Threats :** 1. Financial loss in case of technical glitch 2. Intense international competition 3. Stringent economic and political rules & regulations 4. Entry of local competitors

Source; Authors

Diagram 2: SWOT Analysis of Digital Payment System in International (Gpay & PayPal)

Strengths - 1 . Merchant's assistance for Global reach 2. Easy cross-border transactions 3. (Innovative & user friendly) 4. Omni channel platform with seamless Technology	**Weaknesses –** 1. High chargeback fees 2. Hidden charges for transactions 3. Supported by a limited number of banks 4. Violations of rules and regulations can freeze funds for months
Opportunities- 1. Digital market growth and technological advancements 2. To Create a Bluetooth-enabled device for internet-free use. 3. Create awareness for the adoption of digital payment apps	**Threats-** 1. Rising competition at the regional level 2. Not being able to take advantage of the first mover 3. Limited geographical accessibility 4. Acclaimed scams and frauds

Source: Authors

Discussion:

This article used a qualitative approach, considering the motive to discuss the factors that are responsible for the

advancement of technology and management toward the digital payment system in India and globally. We aimed to address research questions aligned with our study using secondary data, industry reports, research articles, and news articles. Further, we used thematic analysis for structuring the raw data, which answers our research analysis. When applied to secondary data, SWOT analysis (Diagrams 1 &2) helped researchers gain insights into the internal and external factors that influence a particular phenomenon or system. By examining existing data sources, researchers identified the strengths and weaknesses of the subject under study, such as technological advancements or managerial practices.

The findings of our study suggest that while the digital payment system in the international arena demonstrates greater advancement compared to India, but the Indian market is rapidly catching up. Notable instances include the implementation of unified scanners, seamless user interfaces for streamlined transactions, and the facilitation of international payments. Additionally, Indian digital payment platforms serve as omnichannel platforms, offering enticing incentives such as exciting offers and cashback rewards to encourage greater usage. These developments signify India's commitment to developing digital payment systems as a core infrastructure priority. Moreover, India has undertaken the creation of its own projects, proudly labeled as 'Made in India,' thereby promoting its digital ecosystem and establishing a global presence. However, our SWOT analysis (Diagrams 1 & 2) reveals certain challenges specific to the Indian digital payment landscape. Dependence on the internet poses a significant challenge, as connectivity issues and unreliable networks can hinder smooth transactions. Furthermore, there is a lack of awareness and understanding among consumers regarding payment systems and digital payment applications. Trust in these platforms remains low, leading many individuals in India to prefer cash transactions. Further, some issues such as fraud and scamming are faced by both India and internationally. Though rules and regulations have been implemented to combat fraud and cyber scams, hackers employ increasingly sophisticated technologies and tactics.

In conclusion, while the international digital payment ecosystem demonstrates advanced features, India is making significant strides in catching up and establishing its own identity. Overcoming challenges related to internet dependence and trust, coupled with continued technological innovation and consumer incentives, will contribute to the growth and adoption of digital paymentapps in both the Indian and international markets.

Conclusions:

The research objective of the study is to make a comparative analysis of digital payment systems (both Indian and International) on the basis of strengths, weaknesses, opportunities, weaknesses, and threats associated with them. The new perspectives that we will be able to add to the existing knowledge through the research are listed further. The introduction of the single scan payment system completely removed the hindrance of chaos. The companies have turned themselves towards a more customer-centric approach, and they are now prioritizing customer security and trust. Some fintech startups like Paytm have made international payments and currency conversion easier and have also reduced the conversion cost associated with them.

This research will provide managers with valuable insights into the mistakes made by fintech unicorns when making management decisions in areas such as marketing, finance, and human resources. By learning from these mistakes, managers can develop more accurate plans to facilitate the growth of their companies. Moreover, since this study delves deeply into fintech startups like Bharat Pe, Google Pay, Paytm, and PayPal, it can guide other fintech startups in their early stages, helping them navigate the correct path to success. Addressing this research gap would contribute to the existing literature on digital payment systems, banking, and management to enhance our understanding of regional and international variations and provide valuable insights for policymakers and industry stakeholders involved in the development and advancement of digital payment systems.

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