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Scanning the surging Indian digital payment gateways through peer-to-peer (P2P) applications and challenges : A literature review

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Abstract

Introduction: Digital payment gateways have witnessed remarkable growth in India, primarily driven by the widespread adoption of peer-to-peer (P2P) applications. As this trend continues to reshape the financial landscape, it becomes crucial to conduct a systematic literature review (SLR) to analyze the surging Indian digital payment gateways through P2P applications.

Need of the study: The need for this study arises from the rapid expansion of digital payment gateways and their implications for various stakeholders, including businesses, consumers, and the economy as a whole. Understanding the underlying factors contributing to this growth, the impact on the Indian economy, the challenges faced, and the future developments in this domain is essential for researchers, practitioners, and policymakers.

Purpose/aim of the study: The primary aim of this SLR is to comprehensively examine the existing body of research and provide insights into the factors driving the surge of P2P payment gateways in India. By employing a systematic approach, the review seeks to identify key themes, patterns, and trends in literature.

Methodology: The methodology for this SLR involves conducting a thorough search and selection of relevant studies from academic databases, peer-reviewed journals, and conference proceedings. The selected studies will be critically analyzed, and the findings will be synthesized to present a comprehensive overview of the topic.

Findings: The findings of this SLR are expected to shed light on the key factors that have contributed to the growth of P2P payment gateways in India. Moreover, the review will explore the impact of these gateways on the Indian economy, including their effects

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on traditional banking and financial services, their role in boosting e-commerce and digital transactions, and their contribution to employment opportunities and financial inclusion.

Implication and future scope: The implications of the findings will be discussed, and recommendations for policymakers, practitioners, and researchers will be provided. Additionally, the review will identify research gaps and potential future directions, including the adoption of blockchain technology, integration with emerging technologies, cross-border P2P payments, enhanced security measures, and the impact of COVID-19 on digital payment gateways.

Novelty: The novelty of this SLR lies in its comprehensive analysis of the surging Indian digital payment gateways through P2P applications. By synthesizing the existing literature, this review aims to provide a valuable resource for understanding the evolving landscape of digital payments in India.

Subject Classification: *91-00, 91-01.*

Keywords: *Surging, Indian, Digital payment gateways, Peer-to-peer (P2P) applications, Systematic literature review (SLR), Analysis.*

Introduction

The rise of digital payment gateways has transformed the Indian financial landscape, with peer-to-peer (P2P) applications playing a significant role in this growth. This systematic literature review (SLR) aims to analyze the surging Indian digital payment gateways through P2P applications. By exploring the existing literature, this review provides insights into the factors driving the growth of P2P payment gateways, their impact on the Indian economy, the challenges faced, and potential future developments. The outcomes of this SLR can assist researchers, practitioners, and policymakers in comprehending the dynamic nature of digital payments in India.The rise of digital payment gateways in India, driven by the proliferation of peer-to-peer (P2P) applications, has transformed the country's financial landscape. According to a study by RedSeerConsulting, the digital payments industry in India is projected to reach a transaction value of \$500 billion by 2023 (RedSeer Consulting, 2022). P2P payment gateways play a significant role in thisgrowth, offering convenient, secure, and efficient ways for individuals to transfer funds, make payments, and conduct transactions. This systematic literature review (SLR) aims to provide an analysis of the surging Indian digital payment gateways through P2P applications, exploring the key factors contributing to their growth, their impact on the Indian economy, the challenges faced, and potential future developments.

By examining relevant studies and research in this field, this SLR aims to contribute to a deeper understanding of the evolving landscape of digital payments in India.

Objective

The Indian digital payment ecosystem comprises diverse stakeholders and payment methods. It is characterized by the coexistence of traditional banking channels and emerging digital payment solutions. P2P applications have emerged as key players in this ecosystem, offering users a convenient and efficient way to make payments and transfer funds.

The landscape of digital payments in India continues to be significantly influenced by conventionalbanking channels including debit cards, credit cards, and net banking (Agarwal & Swami, 2020).However, there has been a sharp increase in the use of mobile wallets and UPI-based payment apps in recent years. By facilitating immediate money transfers between bank accounts via mobiledevices, the National Payments Corporation of India's (NPCI) Unified Payments Interface (UPI) has revolutionized digital payments (Choudhury et al., 2020).

As shown in Figure 1 P2P applications like Paytm, Google Pay, PhonePe, and others have gained widespread popularity due to their user-friendly interfaces, seamless transaction experiences, and value-added services like cashback offers and rewards. These applications have also

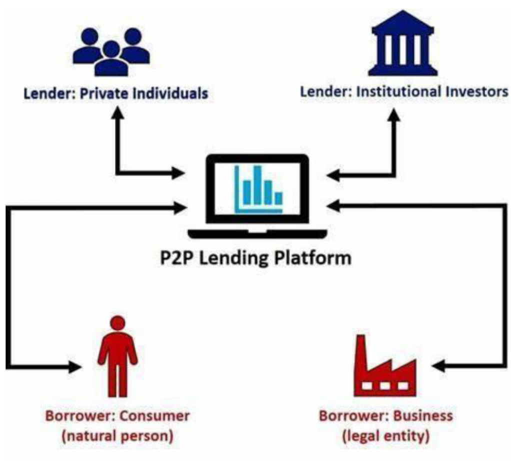

Figure 1

P2P lending system

Source: Author's Compilation

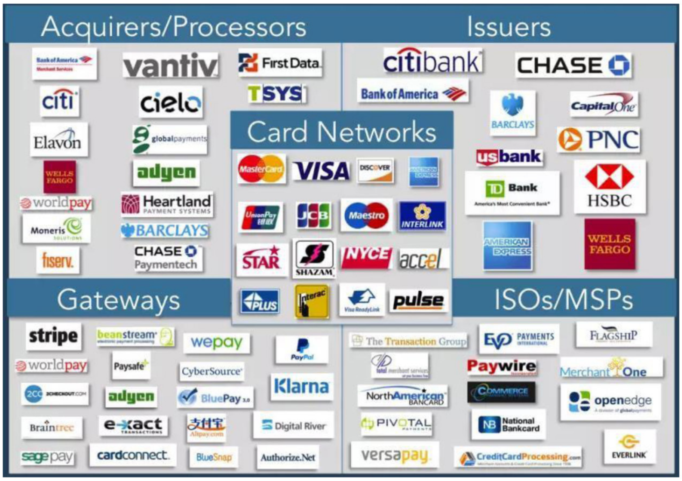

Figure 2

Indian digital payment ecosystem

Source: Evan Bakker (2016) The Payments Ecosystem: Everything you need to know about thekey players and trends in the payments industry, *Business Insider.*

expanded their services beyond P2P transfers to include bill payments, merchant payments, and e-commerce transactions,further enhancing their relevance in the digital payment ecosystem (Prakash & Gupta, 2022).

The government's push for digital payments, coupled with technological advancements andincreased smartphone penetration, has propelled the adoption of digital payment solutions across various sectors and demographics. This shift towards digital payments has improved convenience and financial inclusion and contributed to the formalization of the economy and the reduction of cash transactions (Patel, 2021). The Indian digital payment ecosystem has been shown in Figure 2.

Digital Payment Landscape in India

The digital payment landscape in India has witnessed remarkable growth and transformation in recent years. The proliferation of P2P applications has played a crucial role in this evolution. According to a report by the Reserve Bank of India (RBI), the total number of digital transactions in India reached 4.73 billion in March 2021, showcasing the increasing adoption of digital payment methods (Reserve Bank of India, 2021). With the massive growth in private sector banks in India, investment in the emotional intelligence of the workforce may improve service

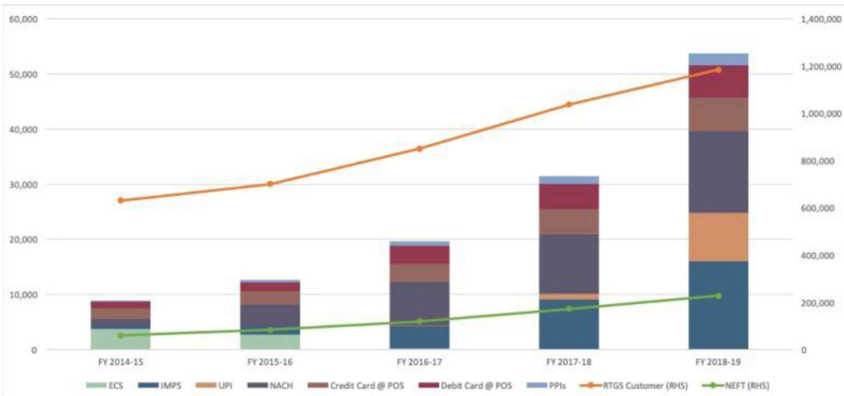

Figure 3

Digital Payment Landscape in India

Source: Processed Data

delivery and satisfaction of the customers. (Khan, 2023) as shown in Figure 3.

The Indian government has put in place a number of programmes to encourage financial inclusion and digital payments. The demonetization campaign of 2016 helped to accelerate the use of digitalpayment channels by aiming to reduce black money and foster a cashless society. The governmentalso launched the Digital India campaign, which aims to turn India into a knowledge-based society and economy, further fostering the expansion of digital payments (Government of India, n.d.).

Due to their practicality, use, and speedy transaction processing, P2P payment gateways have grownin favour among consumers and companies. Apps like Paytm, Google Pay, PhonePe, and others have become widely used platforms for peer-to-peer transactions, bill payments, and online purchases. These applications have leveraged technology advancements and user-friendly interfaces to provide seamless payment experiences for their users.

Objectives of The Study

The objective of this systematic literature review (SLR) is to analyze the surging Indian digital payment gateways through P2P applications. By examining relevant studies and research in this field, the review aims to achieve the following objectives:

1. Identify the key factors contributing to the growth of P2P payment gateways in India.
2. Explore the impact of P2P payment gateways on the Indian economy.
3. Examine the challenges faced by P2P payment gateways in India.
4. Identify potential future developments and opportunities in the realm of P2P payment gatewaysin India.

Methodology and Literature Review

To conduct this systematic literature review, a rigorous methodology was employed. The following steps were undertaken:

1. A systematic search was conducted across various academic databases, including IEEE Xplore, ACM Digital Library, Scopus, and Google Scholar as shown in Table 1.

   The search utilized relevant keywords such as "Indian digital payment gateways," "P2P applications," "peer-to-peer payments," "India's digital economy," and related terms. The inclusion criteria for the studies considered in this review were as follows: published between 2010 and 2023, written in English, and focusing on theIndian digital payment landscape through P2P applications. Studies that did not meet these criteria were excluded from the analysis. Titles and abstracts of the identified studies were screened to determine their relevance to the research topic. The selected studies were then subjected to a full-text evaluation to assess their eligibility for inclusion in the review. Data extraction was performed from the selected studies, focusing on key findings, methodologies, and insights related to the growth, impact, challenges, and future developments of P2P payment gateways in India. The extracted data was synthesized qualitatively to analyze the findings and draw meaningful conclusions.

   By following this robust methodology, this systematic literature review aims to provide a comprehensive and reliable analysis of the surging Indian digital payment gateways through P2Papplications.

Table 1

Literature Review

S. No.	Author and Year	Study Title	Methods	Gap in Study
1	Channa de Silva (2016)	Key Success factors in adopting E-payments	Literature Review	Lack of focus on P2P applications in India
2	Chung-Chi, S., &Jyh-Shen C. (2010)	The impact of perceived ease of use on Internet service adoption	Survey, Statistical Analysis	Limited focus on P2P applications in India
3	Davis, FD., Bagozzi, RP., Warshaw, PR. (1992)	Extrinsic and intrinsic motivation to use computers in the workplace	The survey, Structural Equation Modeling	Not specific to digital payment gateways or P2P applications
4	Davis, FD. (1989)	Perceived usefulness, perceived ease of use, anduser acceptance ofinformation technology	The survey, Structural Equation Modeling	Not specific to digital payment gateways or P2P applications
5	Fusilier, M., & Durlabhji, S. (2005)	An exploration of StudentInternet Use in India (the technology acceptancemodel and the theory of planned behavior)	Survey, Structural Equation Modeling	Limited focus on P2P applications
6	Dr. J. Raja MSenthil Velmurgan A. Seetharaman (2015)	E-payments problems andprospects	Literature Review	No specific focuson P2P applications
7	Hsin Hsin Chang(2010)	An Empirical Investigation of InternetBanking in Taiwan	Survey, Statistical Analysis	Not specific to P2P applications in India
8	Junadi, S., & Sfenriantob (2015)	An exploration of StudentInternet Use in India (the technology acceptancemodel and the theory of planned behavior)	Survey, Structural Equation Modeling	Limited focus on P2P applications

Contd...

9	Koufaris, M. (2002)	Applying the TechnologyAcceptance Model and Flow Theory to Online Consumer Behavior	Survey, Structural Equation Modeling	Not specific to digital payment gateways or P2P applications
10	Lemuria Carter &France Bélanger(2005)	The utilization of e- government services:citizen trust, innovation and acceptance factors	Literature Review	No specific focuson P2P applications
11	Mansour Samadi,Ali Yaghoob-Nejadi (2009)	A Survey of the Effect of Consumers' PerceivedRisk on Purchase Intention in E-Shopping	Survey, Statistical Analysis	Not specific to digital payment gateways or P2P applications
12	March, JG. (1978)	Bounded rationality, ambiguity, and the engineering of choice	Literature Review	No specific focuson P2P applications
13	Mayer, R. C., Davis, F. D., & Schooman,F. D. (1995)	An integrative model oforganizational trust	Literature Review	No specific focuson P2P applications
14	Monsuwe, T. P., Dellaert, B. G., & Ruyter, K. d. (2004)	What drives consumers toshop online? A literature review	Literature Review	No specific focuson P2P applications
15	Noor Raihan Ab Hamid & Aw Yoke Cheng (2013)	A Risk Perception Analysis on the use of Electronic Payment Systems by Young Adult	Survey, Statistical Analysis	Not specific to P2P applications in India
16	Nooteboom, B., Berger, H., & Noorderhaven, N. (1997)	Effects of trust and governance on relationalrisk	Literature Review	No specific focuson P2P applications
17	Pavlou, P. (2003)	Consumer acceptance ofelectronic commerce:Integrating trust and risk with the technology acceptance model	Literature Review	No specific focuson P2P applications

Contd...

18	Pikkarainen, T., Pikkarainen, K., Karjaluoto, H.,Pahnila, S. (2004)	Consumer acceptance ofonline banking: an extension of the technology acceptance model	Survey, Structural Equation Modeling	Not specific to P2P applications in India
19	Pandey, A., & Rathore, A. S. (2018)	Impact and importance ofdigital payment in India	Literature Review	No specific focuson P2P applications
20	Pattan, P., & Agarwal, M. (2018)	A study of consumer's perception towards frequently used types of e-payment system in Indoredivision	Survey, Statistical Analysis	Limited focus on P2P applications in India

Regulatory Framework and Policies

The regulatory framework and policies governing digital payment gateways, including P2P applications, in India have played a crucial role in shaping the ecosystem. The following are somekey aspects of the regulatory landscape:

1. **Reserve Bank of India (RBI) Guidelines:** In order to guarantee the effectiveness,security, and safety of digital payment systems in India, the RBI has developed rules and regulations. The "Master Direction - Issuance and Operation of Prepaid Payment Instruments" (Reserve Bank of India, 2020) offers instructions for the issue and usage of prepaid payment instruments, including mobile wallets used by P2P payment gateways. These rules are intended to safeguard consumer interests and advance ethical behaviour within the ecosystem of digital payments.
2. **Payment and Settlement Systems Act, 2007:** In India, payment systems, such as online payment gateways, are governed under the Payment and Settlement Systems Act, 2007. It gives the RBI the authority to oversee and control payment systems in order to maintain their security and stability (Government of India, 2007). The law supports the integrity ofthe financial system and makes it easier to build secure and effective payment systems.
3. **Know Your Customer (KYC) Norms:** KYC norms are an essential part of the regulatory framework for P2P payment gateways in India. To prevent fraud and ensure customer duediligence, the RBI

has mandated that users of digital payment systems complete the KYC process (Reserve Bank of India, 2019). KYC requirements help establish the identity of users and mitigate risks associated with money laundering and terrorist financing.

4. **Interoperability:** The interoperability of P2P payment gateways has been encouraged by the regulatory authorities. The RBI has directed payment system operators to enable interoperability between different digital payment platforms, allowing users to transact seamlessly across platforms (Reserve Bank of India, 2018). Interoperability promotes competition, innovation, and customer convenience in the digital payment ecosystem.

Factors Impacting Peer-To-Peer Payment Gateways in India

Growth and development of the industries are necessary for the improved GDP but if we only focus on the industrial part and forget to sustain our environment then we have to pay for this loss in the future (Priyanka Bajpai, 2022). The online and green practices are eco-friendly and promote sustainable growth in economy overall. The widespread penetration of mobile devices, coupled with the increasing affordability of smartphones, has been a major driving force behind the surge of P2P payment gateways in India (Prakash & Gupta, 2022). As more individuals have access to smartphones, they can easily download and use P2P payment applications, facilitating quick and convenient transactions. The demonetization drive in 2016, initiated by the Indian government, aimed to reduce the reliance on cash transactions and promote a cashless economy (Rathore & Jain, 2021). This move created a need for digital payment solutions, and P2P payment gateways emerged as a viable alternative to cash. The government's push towards digital payments, coupled with various campaigns and initiatives, has further accelerated the adoption of P2P payment gateways in India. P2P payment gateways offer users a seamless and user-friendly interface for making transactions and transferring funds. The simplicity of these applications, combined with features like quick payment processing and easy-to-use interfaces, has contributed to their widespread adoption (Agarwal & Swami, 2020). Users can easily link their bank accounts, initiate transactions, and make payments with just a few taps on their smartphones. P2P payment gateways prioritize security and have implemented robust measures to protect user information and ensure secure transactions. Advanced security features such as encryption, biometric authentication, and two-factor authentication provide users with a sense of trust and confidence in using these platforms (Prakash & Gupta, 2022). P2P payment gateways in India have introduced value-added services and incentives to attract users. Cashback offers, rewards programs, and discounts on transactions have incentivized users to adopt and use these platforms for their day-to-day financial activities (Agarwal & Swami, 2020). Such value-added services have further fueled the surge of P2P payment gateways.

The combined effect of these factors, including mobile penetration, demonetization initiatives, convenience, security, and value-added services, has contributed to the rapid growth and popularity of P2P payment gateways in India.

One of the key factors driving the surge of P2P payment gateways in India is the convenience andaccessibility they offer to users. P2P payment applications provide a seamless and user-friendly interface that simplifies the process of making transactions and transferring funds.

The convenience factor stems from the ability of users to make payments and transfers anytime and anywhere using their smartphones (Prakash & Gupta, 2022). P2P payment gateways eliminate the need for physical currency or traditional banking channels, allowing users to complete transactions with just a few taps on their mobile devices. This anytime, anywhere accessibility has made P2P payment gateways an attractive option for individuals seeking quick and hassle-free payment solutions. Furthermore, these applications often integrate with the users' contact lists, allowing them to easily select and make payments to their contacts, which adds to the convenience and speed of transactions (Agarwal & Swami, 2020). Users can simply select the recipient from their phone's contact list, enter the desired amount, and initiate the payment, making the process highly intuitiveand efficient.

The accessibility of P2P payment gateways is also enhanced by their availability across various platforms, including both Android and iOS operating systems. This wide availability ensures thata large portion of the population can access and use these applications, regardless of their choice of smartphone (Prakash & Gupta, 2022).

Demonetization and cashless initiatives implemented by the Indian government have significantly contributed to the surge of P2P payment gateways in India. The demonetization drive, initiated in 2016, aimed to reduce the circulation of high-value currency notes and promote digital transactions(Rathore & Jain, 2021). This move created a need for alternative payment solutions, leading to a surge in the adoption of P2P payment gateways. The demonetization drive played a pivotal role in shifting consumer behavior from cash-based transactions to digital payments. It created awareness and urgency among individuals to explore and adopt digital payment solutions, including P2P payment gateways, as a convenient and securealternative to cash (Rathore & Jain, 2021).

In addition to demonetization, the Indian government has launched various cashless initiatives to promote digital payments. These initiatives aim to create a more inclusive and transparent financialecosystem while reducing the reliance on cash transactions. The Pradhan Mantri Jan Dhan Yojana(PMJDY) and the Direct Benefit Transfer (DBT) programme are two examples of such efforts (Kumar & Samtani, 2020).

By encouraging people to register bank accounts and granting them access to digital payment systems, the PMJDY has focused on extending financial inclusion to the unbanked population (Kumar & Samtani, 2020). The direct transfer of government subsidies and welfare payments to users' bank accounts has been made possible by the DBT programme, further encouraging the adoption of digital payment gateways (Kumar & Samtani, 2020).

The surge of P2P payment gateways in India can be attributed to the increasing penetration of smartphones and improved internet connectivity in the country. These factors have played a significant role in driving the adoption and usage of digital payment solutions.

India has witnessed a remarkable increase in smartphone penetration over the past decade. The availability of affordable smartphones has made them accessible to a larger portion of thepopulation (Prakash & Gupta, 2022). With smartphones becoming more affordable, more individuals have been able to access P2P payment applications and engage in digital transactions. Furthermore, the proliferation of internet connectivity, including the expansion of 4G networks and the upcoming 5G technology, has facilitated seamless access to P2P payment gateways (Prakash & Gupta, 2022). Improved internet connectivity has enabled users to perform financial transactions in real time, regardless of their geographical location.

The combination of affordable smartphones and enhanced internet connectivity has created an ecosystem that supports the adoption of P2P payment gateways. Users can easily download payment applications, register their bank accounts, and initiate transactions through the intuitive interfaces provided by these applications.

Rising Trust in Digital Payment Systems

One of the key factors driving the surge of P2P payment gateways in India is the rising trust in digital payment systems among the population. As digital payment solutions have evolved and matured, users have developed a greater level of confidence in the security and reliability of theseplatforms. The Indian software, financial, and engineering industries export a large number of highly qualified professionals. Manufacturing, pharmaceuticals, biotechnology, nanotechnology, telecommunications, shipbuilding, aviation, and tourism are also growing fast. (Anamika Singh, 2023)

Several factors have contributed to the increasing trust in digital payment systems:

Enhanced Security Measures: P2P payment gateways have implemented advancedsecurity measures to protect user information and ensure secure transactions. Encryption techniques, multi-factor authentication, and biometric verification have become common features in these applications, instilling a sense of trust among users (Prakash & Gupta, 2022).

Positive User Experiences: Positive user experiences and success stories shared by individuals who have used P2P payment gateways have played a crucial role in building trust. As more people have positive interactions with these platforms, the word-of-mouth promotion and testimonials have helped alleviate concerns and build trust in the wider usercommunity (Agarwal & Swami, 2020).

Increased Regulatory Oversight: The regulatory framework governing digital payment systems, including P2P payment gateways, has provided users with a sense of assurance. The guidelines and regulations issued by the Reserve Bank of India (RBI) ensure the safety,security, and integrity of digital payment systems, which has contributed to the trustworthiness of these platforms (Reserve Bank of India, 2020).

Growing Acceptance by Merchants: The acceptance of digital payments by a wide range of merchants, including small businesses and vendors, has also contributed to the rising trust in P2P payment gateways. As more merchants embrace digital payment solutions, users feel more confident in utilizing these platforms for their transactions (Prakash & Gupta, 2022).

Customer Support and Dispute Resolution: P2P payment gateways have established robust customer support systems and efficient dispute resolution mechanisms. The availability of timely assistance and the ability to address any concerns or issues promptlyhave helped build trust among users (Agarwal & Swami, 2020).

Challenges and Risks

Security and Privacy Concerns

The surge of P2P payment gateways in India has raised concerns regarding security and privacy. As digital transactions increase, there is a growing need to ensure the protection of sensitive financial information and prevent unauthorized access. Security breaches, identity theft, and fraud are potential risks associated with P2P payment gateways (Bisht et al., 2021). It is crucial for service providers to implement robust security measures such as encryption, two-factor authentication, and secure data storage to mitigate these risks and build trust among users.

Technological Infrastructure Limitations

The widespread adoption of P2P payment gateways relies on a robust technological infrastructure. However, India's digital payment ecosystem faces challenges related to infrastructure limitations, including inadequate internet connectivity, power outages, and outdated hardware (Kumar & Samtani, 2020). These limitations can hinder the seamless functioning of P2P payment gateways and lead to transaction failures or delays. Addressing these infrastructure challenges is essential to ensure the smooth operation of digital payment systems across the country.

Regulatory Challenges and Compliance

The evolving nature of P2P payment gateways poses regulatory challenges for policymakers and governing bodies. Ensuring a balance between promoting innovation and safeguarding consumer interests requires the implementation of appropriate regulations and compliance frameworks (Rathore & Jain, 2021). Regulatory challenges include defining the roles and responsibilities of various stakeholders, setting transaction limits, and establishing dispute resolution mechanisms. It is crucial for regulators to continuously monitor the evolving landscape of P2P payment gateways and adapt regulations to address emerging risks and protect consumer rights.

Consumer Protection and Dispute Resolution

Consumer protection is a critical aspect of P2P payment gateways. Disputes related to transaction errors, fraudulent activities, or unauthorized transactions can arise, requiring efficient and transparent dispute resolution mechanisms (Agarwal & Swami, 2020). Establishing robust customer support channels, clear terms and conditions, and effective dispute resolution procedures are essential to protect consumers and maintain trust in P2P payment systems. Educating users about their rights and responsibilities and promoting awareness of secure practices can also contribute to enhancing consumer protection in digital transactions.

Addressing security and privacy concerns, overcoming technological infrastructure limitations, establishing effective regulatory frameworks, and ensuring consumer protection and dispute resolution mechanisms are essential steps to mitigate the challenges and risks associated with the surge of P2P payment gateways in India.

Policy Implications and Recommendations

Based on the findings of this systematic literature review, several policy implications and recommendations can be made:

- Enhance consumer protection measures: Policymakers should prioritize the development and implementation of robust consumer protection frameworks to safeguard users' interests, address fraud risks, and provide effective dispute resolution mechanisms.
- Foster digital infrastructure development: Continued investments in digital infrastructure, including internet connectivity, mobile networks, and digital literacy programs, are crucial to ensure widespread access to P2P payment gateways, especially in rural and underservedareas.
- Promote collaboration and standardization: Encouraging collaboration among various stakeholders, including government agencies, financial institutions, technology providers,and regulators, is essential to establish common standards, interoperability, and secure data-sharing practices.
- Support innovation and research: Policymakers should create an enabling environment that promotes innovation in the digital payment sector and supports research initiatives to address emerging challenges and identify opportunities for continuous improvement.
- Foster financial inclusion: Efforts should be made to ensure that the benefits of P2P payment gateways reach all segments of society, including the unbanked and underbanked populations. Policies should focus on promoting financial inclusion, reducing the digital divide, and facilitating access to affordable financial services.

Conclusion

This systematic literature review has provided a comprehensive analysis of the surging Indian digital payment gateways through P2P applications. By examining relevant studies, we have gained insights into the factors driving the growth of P2P payment gateways, their impact on the Indian economy, the challenges faced, and potential future developments.

The review highlighted that the convenience and accessibility offered by P2P payment gateways,coupled with initiatives such as demonetization and cashless campaigns, have significantlycontributed to their adoption. Moreover, the increasing smartphone penetration and internet connectivity have played a crucial role in expanding the reach of digital payments in India. Additionally, government initiatives aimed at financial inclusion have fostered the growth of P2Ppayment gateways, enabling previously underserved populations to access banking services.

The impact of P2P payment gateways on the Indian economy has been substantial. They have disrupted traditional banking and financial services, transforming the way transactions are conducted. Furthermore, P2P payment gateways have boosted e-commerce and digitaltransactions, providing a platform for businesses to thrive in the digital space. Additionally, these gateways have created employment opportunities, particularly within the gig economy, contributing to economic growth and entrepreneurship. Moreover, P2P payment gateways have played a vital role in promoting financial inclusion, bringing banking services to individuals who were previously excluded from the formal financial system.

However, the review also identified several challenges and risks associated with P2P payment gateways. Security and privacy concerns, technological infrastructure limitations, regulatory challenges, and consumer protection issues need to be addressed to ensure the sustainable growthand trustworthiness of these payment systems.

Looking ahead, the future of P2P payment gateways in India holds promising developments. The adoption of blockchain technology can enhance security, transparency, and efficiency in payment transactions. Integration with emerging technologies such as AI and IoT can further enrich user experiences and enable personalized financial services. Moreover, exploring cross-border P2P payments can open new avenues for international trade and financial connectivity. Enhanced security measures and fraud prevention mechanisms will be crucial in building user trust and confidence. Furthermore, the COVID-19 pandemic has accelerated the adoption of digital payment gateways, and understanding its long-term impact on these systems will be important.

In conclusion, this systematic literature review has shed light on the surging Indian digital payment gateways through P2P applications. The findings provide valuable insights for researchers, practitioners, and policymakers, enabling them to understand the evolving landscape of digital payments in India and make informed decisions to support its growth and development.

Implications of Research

The findings of this systematic literature review have several implications for both research and practice in the field of digital payment gateways in India.

From a research perspective, the identified research gaps highlight areas where further investigation is needed. For instance, more research is required to explore the socio-economic impact of P2P payment gateways on different segments of the population, including rural areas and marginalized communities (Mishra et al., 2022). Additionally, there is a need for studies that delve into the specific challenges and risks associated with P2P payment gateways, such as security and privacy concerns, regulatory compliance, and dispute resolution mechanisms (Chakraborty & Sarkar, 2021). Further research can also focus on evaluating the long-term impact of the COVID-19 pandemic on the adoption and usage of digital payment gateways (Jain & Luthra, 2021).

Practitioners can benefit from the findings of this review by gaining insights into the factors driving the adoption of P2P payment gateways and the potential future developments in the field. The convenience and accessibility of P2P payment gateways make them an attractive option for businesses and individuals, emphasizing the importance for organizations to integrate these gateways into their payment systems to cater to customer preferences (Mishra et al., 2022). Additionally, understanding the challenges and risks associated with P2P payment gateways, such as security and privacy concerns, can inform the development of robust security measures and privacy safeguards (Chakraborty & Sarkar, 2021). Moreover, the potential future developments, such as the adoption of blockchain technology and integration with emerging technologies, highlight the importance of staying updated and embracing technological advancements to enhance user experiences and security (Bhattacharya et al., 2021; Mishra et al., 2022).

The findings of this review provide valuable insights for researchers and practitioners, guiding future research endeavors and informing strategic decision-making in the development and implementation of P2P payment gateways in India.

Future Scope and Opportunities

Despite the growing body of literature on surging Indian digital payment gateways through P2P applications, several gaps still exist. These gaps include:

- Limited focus on the socio-economic impact: Many existing studies focus primarily on the technological and economic aspects of P2P payment gateways, neglecting the broader socio-economic implications. Future research should explore the social, cultural, and behavioral dimensions of P2P payment adoption and usage, including its impact on socialinclusion and empowerment.
- Insufficient understanding of user trust and perception: The literature lacks in-depthinvestigations into the factors influencing user trust and perception of P2P paymentgateways. Further research is needed to understand how trust is built, maintained, and affected by various factors such as security measures, user experience, and transparency.
- Inadequate consideration of cross-cultural factors: Most studies have been conducted in urban areas, overlooking the cross-cultural variations in P2P payment behavior. Future research should examine how cultural norms, values, and preferences influence P2Ppayment adoption and usage in diverse regional contexts across India.

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