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# THE FUTURE OF PAYMENT SYSTEMS: HARNESSING TECHNOLOGY TRENDS FOR A REVOLUTIONARY PAYMENT ECOSYSTEM

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#### **Abstract**

In light of recent developments and prevalent patterns, this research investigates how recent trends can impact the future of financial transactions. As the world continues to become increasingly digital and networked, the traditional means of payment are being put to the test by new technologies and business models. This study is to uncover opportunities and difficulties for stakeholders in the payment systems sector in light of recent technological breakthroughs such as blockchain, mobile payments, and biometrics. The research will be carried out in order to do this. By performing a literature review and polling payment industry specialists, this research investigates the current state of payment systems as well as the potential impact that emerging technologies may have on their foreseeable future. According to the findings of the research, even though new technologies have the potential to enhance the payment system in a variety of ways, such as by making it more effective, secure, and accessible, there are also significant risks and challenges associated with their adoption. These risks and challenges include those pertaining to regulation, privacy, and security. In the end, the paper concludes with some recommendations for the numerous parties involved in the payment systems industry on how they can best make use of technological advancements to bring about a truly innovative payment ecosystem that will be of service to customers, businesses, and the greater good. These recommendations focus on how to best take advantage of technological advancements to bring about a truly innovative payment ecosystem.

**Key Words:** Revolutionary Payment Ecosystem, Traditional Payment Methods, Emerging Technologies, Blockchain, Mobile Payments

#### Introduction

In contemporary years, there has been a momentous shift in the way payments are made. Technological advancements have revolutionized payment systems, and there is a growing need to understand the future of payment systems in light of these changes (Wewege, Lee, Thomsett, & Banking, 2020). Another study (Djakova, 2017) states as the world becomes increasingly digital, payment systems are becoming more sophisticated, with new technologies emerging to make payments faster, more secure, and more efficient.

The payment industry is in the midst of a transformational change, with technological advancements driving a shift from traditional payment methods to digital payment systems (Li, Hou, & Wu, 2017). The upsurge of smartphones and further mobile devices has empowered consumers to make payments from anywhere at any time (DeVries, 2016). The worldwide comprehensive mobile payment marketplace is expected to reach \$4.5 trillion by 2023, with a compound annual growth rate (CAGR) of 33.8% from 2018 to 2023(Alladi, Chamola, Parizi,

& Choo, 2019). The growth in mobile payments is being fuelled by the increasing adoption of digital wallets, such as Apple Pay, Google Wallet, and PayPal, which allow users to store multiple payment cards securely and make payments with just a few clicks.

The emergence of blockchain technology has also disrupted traditional payment systems where it has been observed that blockchain is a decentralized ledger system that enables secure and transparent transactions without the need for intermediaries such as banks (Alzaydi, 2021) and (Nguyen, 2016). The use of blockchain in payment systems has the potential to reduce transaction costs, increase speed, and improve security (Djakova, 2017). According to one of published reports by World Bank, the global blockchain in the payment marketplace is predictable to grow from \$231.63 million in 2016 to \$1,890.76 million by 2023, at a CAGR of 45.1% between 2017 and 2023.

In addition to mobile payments and blockchain (Gomber, Kauffman, Parker, & Weber, 2018) argue that other technological advancements are also driving the evolution of payment systems. For example, the intensification of artificial intelligence (AI) and machine learning is empowering payment providers to boost their fraud detection capabilities and personalize payment experiences. In the intervening time, the internet of things (IoT) is consenting for the integration of payment systems with everyday objects, such as smart cars and wearable devices (Mills et al., 2016).

While these technological advancements have the potential to revolutionize payment systems, they also pose challenges. For example, the security of digital payments remains a concern, with the risk of fraud and data breaches (Ølnes, Ubacht, & Janssen, 2017). Furthermore, the rapid pace of technological change means that payment providers must constantly innovate to keep up with consumer demands and stay ahead of competitors.

In light of these challenges and opportunities, this research paper targets to reconnoitre the upcoming payment systems, the technological trends that are driving their evolution, and the opportunities and challenges that lie ahead. By understanding these factors, payment providers can develop strategies to harness technology trends for a revolutionary payment ecosystem that meets the needs of consumers in a rapidly changing digital world.

In recent existences, there has been a noteworthy transferral in the way payments are made. Technological advancements have revolutionized payment systems, and there is a growing need to understand the future of payment systems in light of these changes. As the world becomes increasingly digital, payment systems are becoming more sophisticated, with new technologies emerging to make payments faster, more secure, and more efficient. This research paper explores the future of payment systems, the technology trends that are driving their evolution, and the opportunities and challenges that lie ahead.

# Adoption of FinTech Affected Financial Decision Making

The adoption and implementation of FinTech has partaken a significant impact on financial decision making, with implications for individuals, businesses, and the financial industry as a whole. FinTech has transformed the way people access and manage financial information, products, and services (Akter, D'Ambra, & Ray, 2013). With the advent of FinTech, financial decision making has become more accessible, convenient, and personalized, with a range of digital tools and services available to help users make informed decisions. For instance (Chan, Troshani, Rao Hill, & Hoffmann, 2022) discuss, users can now access real-time information

on their financial transactions, investments, and credit scores, as well as use mobile payment apps, robo-advisors, and peer to peer lending platforms to accomplish their finances. FinTech has also expanded the range of financial products and services available, with new innovations such as cryptocurrency, digital wallets, and crowdfunding platforms (Carlin, Olafsson, & Pagel, 2017). However, the adoption of FinTech has also raised concerns around issues such as data privacy, security, and consumer protection. Therefore, it is important to understand how the adoption of FinTech has affected financial decision making and to develop strategies to maximize the benefits and minimize the risks of FinTech adoption (Najib, Ermawati, Fahma, Endri, & Suhartanto, 2021).

#### Literature Review

The payment system landscape has undergone a substantial conversion in recent years, driven by advances in technology and shifting consumer behaviour (Najib et al., 2021). The adoption of mobile devices, the internet, and the emergence of new payment technologies such as blockchain and crypto currencies have revolutionized the way payments are made (Haqqi & Suzianti, 2020).

One of the key variables in the future of payment systems is technology adoption. Consumers and businesses are increasingly adopting new technologies for payments, such as mobile payments, digital wallets, and blockchain-based systems (Yoshino, Morgan, & Long, 2020). According to one of reports published by Allied Market Research, the worldwide mobile payment market is anticipated to touch \$12.06 trillion by 2026, mounting at a CAGR of 28.2% from 2019 to 2026. This highlights the growing trend of technology acceptance in payment systems (Xie, Ye, Huang, Ye, & Research, 2021).

Another study by (Carlin et al., 2017) argue that variable that impacts the future of payment systems is regulatory policies. Government regulations play a significant role in shaping the payment system landscape, including data privacy laws and open banking regulations (Fadhul & Hamdan, 2020). For example, the General Data Protection Regulation (GDPR) in Europe has recorded a momentous impact on how companies handle consumer data, including payment data. Additionally, the Revised Payment Services Directive (PSD2) in Europe aims to increase competition and innovation in payment services by enabling third-party access to payment data and promoting the development of new payment technologies (Haqqi & Suzianti, 2020).

Market competition is another important variable in the future of payment systems. The degree of competition among payment providers, including banks, FinTech startups, and tech giants, has a significant impact on the innovation and development of new payment technologies (Holmes & King, 2019). FinTech startups and tech giants have disrupted the traditional payment system landscape by introducing new payment technologies and innovative business models (Frost, 2020). For instance, the introduction of peer-to-peer payment platforms such as PayPal and Venmo has enabled users to make payments without the need for a traditional bank account.

Trust and security are key mediating variables that impact the adoption of new payment technologies. The degree of trust and confidence that consumers have in the security and reliability of payment systems plays a crucial role in the adoption of new technologies (Guild, 2017). Consumers are more expected to embrace and adopt new payment technologies if they perceive them as protected and consistent. This highlights the importance of implementing

robust security measures and building trust with consumers (Setiawan, Nugraha, Irawan, Nathan, & Zoltan, 2021b).

Convenience and user experience are other key mediating variables that impact the acceptance of new-fangled disbursement technologies. The ease of use and convenience of payment systems, such as speed of transactions, accessibility, and user interface design, are important factors that influence consumer behaviour (Chang, Wong, Lee, & Jeong, 2016). Payment systems that offer a seamless user experience and are easy to use are more likely to be adopted by consumers.

Cost and affordability are also important mediating variables that impact the adoption of new payment technologies (Tseng & Guo, 2022). The cost-effectiveness and affordability of payment systems for consumers and businesses play a significant role in their adoption. Payment systems that offer lower transaction fees and are more cost-effective for businesses are more likely to be adopted (Boustani, 2020a).

(Boustani, 2020b) discuss the adoption rate and payment system innovation are the two dependent variables that are impacted by the variables discussed above. The adoption rate refers to the level of adoption of new payment technologies or systems by consumers and businesses. The adoption rate is influenced by variables such as technology adoption, regulatory policies, market competition, trust and security, convenience and user experience, and cost and affordability.

Payment system innovation refers to the degree of innovation in payment systems, such as the development of new payment technologies, products, or services. Payment system innovation is impacted by variables such as technology adoption, regulatory policies, and market competition (H. Yang, 2017). FinTech startups and tech giants have played a significant role in driving payment system innovation by introducing new payment technologies and innovative business models (Jinasena, Spanaki, Papadopoulos, & Balta, 2020).

The future of payment systems is influenced by various variables such as technology adoption, regulatory policies, market competition, trust and security, convenience and user experience, and cost and affordability.

## Research Objectives

- To identify and describe the major emerging trends and technologies that are likely to disrupt traditional payment systems, including blockchain, artificial intelligence, and mobile payments.
- To assess the impact of these disruptive technologies on the existing payment ecosystem and their looming to transform the industry by reducing costs, improving security and accumulative efficiency.
- To analyze the significant challenges and obstacles that need to be addressed to unlock
  the full potential of these technologies, including regulatory requirements and adoption
  barriers.
- To estimate and evaluate the business models and approaches that are most likely to succeed in this evolving landscape, including partnerships, investments, and new product development.

• To provide recommendations and guidelines for businesses and policymakers to adapt to these trends and leverage innovative payment technologies to enhance customer experience, drive growth, and create new opportunities for the industry.

# Research Methodology

Descriptive methodology will be used to fulfil the objectives of this study. This method involves describing and analysing phenomena or events in the present, based on the current state of knowledge and available data.

Finally, the study will provide recommendations and guidelines for policymakers and businesses to adapt to the ongoing changes in the payment industry and take advantage of the opportunities presented by new technologies. The conclusions and recommendations will be grounded in the analysis of the data and insights gained from the research.

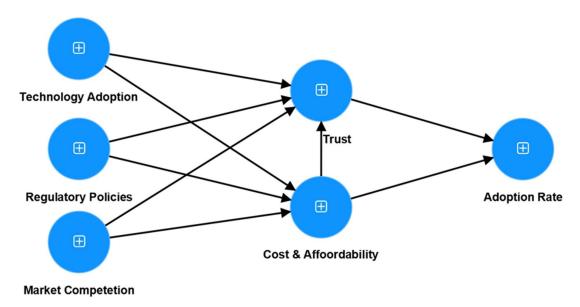


Figure - 1
Ongoing payment system and its impact on adoption rate

# **Technology Adoption**

The Future of Payment Systems: Harnessing Technology Trends for a Revolutionary Payment Ecosystem is a topic that requires an in-depth investigation of the dynamics that affect the acceptance rate of new payment technologies or systems as discuss by (Fu & Mishra, 2022). One such factor is technology adoption, that discusses to the extent to which consumers and businesses embrace new payment know-hows, such as mobile payments or blockchain-based systems (Setiawan, Nugraha, Irawan, Nathan, & Zoltan, 2021a). This literature review will examine how technology adoption affects the cost and affordability of payment systems, which in turn can lead to increased adoption rates.

Research has shown that technology adoption can have a momentous influence on the cost and affordability of payment structures. For instance, mobile payments have been found to be more cost-effective than traditional payment methods such as cash or credit cards (Mention, 2019). This is because mobile payments are often free or charge lower fees compared to other payment

methods. Similarly, blockchain-based systems have the potential to reduce transaction costs and increase efficiency in payment (Firmansyah, Masri, Anshari, & Besar, 2023).

The cost-effectiveness and affordability of payment systems are important factors in driving adoption rates. Consumers and businesses are more likely to adopt new payment technologies if they are cost-effective and affordable. In a study of mobile payment adoption, researchers found that perceived costs and benefits were significant predictors of adoption intentions (Boot, 2017).

Nonetheless, it is essential to note that the connection amid technology adoption and cost/affordability is not continuously straightforward. For example, the cost of implementing new payment technologies can be high, and this cost may be passed on to consumers in the form of higher fees or charges. In addition, there may be additional costs associated with maintaining and upgrading these systems, which can also impact affordability.

Overall, the literature suggests that technology know-how adoption might have a substantial stimulus on the cost and affordability of payment systems, which in turn can affect adoption rates (Hu, Ding, Li, Chen, & Yang, 2019a). It is vital for payment providers to consider the cost-effectiveness and affordability of new payment technologies when developing and promoting them to consumers and businesses. By doing so, they can increase the likelihood of adoption and promote the growth of a revolutionary payment ecosystem.

The acceptance of innovative technologies in the payment industry has been on the upswing, and it has a significant impact on the level of trust that consumers have in the security and reliability of payment systems (Dwivedi, Alabdooli, & Dwivedi, 2021). As consumers become more accustomed to using technology for payments, their reliance in the safety and reliability of these systems upsurges. This trust is an essential factor in the adoption rate of new payment technologies or systems by consumers and businesses (Singh, Sahni, & Kovid, 2020).

For instance, the adoption of mobile payments has been increasing in recent years, and it has been driven by the convenience and user experience offered by mobile payment solutions. However, the success of these solutions is also dependent on the level of trust that consumers have in the security of these systems. If consumers perceive mobile payment solutions as insecure, they are less likely to adopt them.

Furthermore, the adoption rate of new payment technologies or systems is also influenced by the level of trust that businesses have in these systems (Setiawan, Nugraha, Irawan, Nathan, & Zoltan, 2021c). For instance, small businesses may be hesitant to adopt new payment technologies if they perceive them as insecure or unreliable. On the other hand, larger businesses may be more willing to adopt new payment technologies if they perceive them as secure and reliable.

Therefore, it can be concluded that the adoption of new technologies has a significant influence on the level of confidence that consumers and businesses ensure in the security and reliability of payment systems (Hu, Ding, Li, Chen, & Yang, 2019b). This trust is a vital factor in the adoption rate of new payment technologies or systems. As technology adoption increases, and trust in payment systems improves, the adoption rate of new payment technologies or systems is likely to increase.

# **Regulatory Policies**

Regulatory policies play a crucial role in building trust and confidence among consumers and businesses in the payment system landscape. Government regulations related to data privacy, consumer protection, and fraud prevention have a significant impact on the level of trust that individuals have in payment systems (H. Yang, 2017). For instance, regulations such as the General Data Protection Regulation (GDPR) in Europe and the California Consumer Privacy Act (CCPA) in the United States have increased transparency and accountability in data handling by businesses, thereby enhancing consumers' trust in the safety and security of their personal information.

In addition of that (Hu et al., 2019a) discuss similarly, regulatory guidelines related to fraud prevention, such as the Payment Services Directive 2 (PSD2) in Europe, have led to the implementation of stronger authentication measures, such as two-factor authentication and biometric verification, which can increase the level of trust in payment transactions. Open banking regulations, which require banks to share customer data with third-party providers, can also enhance trust by allowing consumers to have greater control over their financial data and enabling them to access innovative payment solutions from FinTech startups.

Regulatory policies play a noteworthy character in influencing the cost and affordability of payment systems, which, in turn, can affect the adoption rate of new payment technologies (W. Yang, 2017). For instance, government regulations can impose certain fees or taxes on payment providers, which can increase the overall cost of using payment systems for consumers and businesses (Khan, Olanrewaju, Baba, Langoo, & Assad, 2017). This, in turn, can reduce the adoption rate of new payment technologies, as users may find them less cost-effective than traditional payment methods.

On the other hand, regulatory policies can also promote the development of more affordable payment systems by encouraging competition among payment providers. For example, open banking regulations can enable new entrants, such as FinTech startups, to enter the market and offer more cost-effective payment solutions (Masihuddin, Khan, Mattoo, & Olanrewaju, 2017). This can increase the adoption rate of new payment technologies, as consumers and businesses may find them more affordable and attractive than traditional payment methods.

Moreover, regulatory policies can also affect the confidence and sureness that consumers have in payment systems. For example, data privacy laws can help ensure that users' sensitive information is protected from unauthorized access or misuse, which can increase trust in payment systems. This, in turn, can boost the adoption rate of new payment technologies that offer enhanced security features, such as blockchain-based systems (Bollen, 2016).

Also (Polasik, Huterska, Iftikhar, & Mikula, 2020) discuss overall, regulatory strategies can have a weighty influence on the cost and affordability of payment systems, as well as on the trust and confidence that consumers have in them. These factors can, in turn, affect the adoption rate of new payment technologies, highlighting the need for policymakers to carefully consider the regulatory framework for payment systems in the context of the rapidly evolving technology landscape.

## **Market Competition**

(Polasik et al., 2020) discuss as tech giants, can have a significant impact on the level of trust that consumers have in payment systems. As more players enter the market, consumers are presented with a wider range of options and have higher expectations regarding the quality and security of payment services. The competition among payment providers can also drive innovation and the development of new technologies that can enhance the user experience and increase trust in the payment system.

The degree of market competition can also affect the cost and affordability of payment systems, which can further impact adoption rates. With more players in the market, there is a greater likelihood of price competition and cost reduction, which can make payment systems more accessible and affordable for consumers and businesses. In turn, this can lead to higher adoption rates as more people are able to take advantage of the benefits of new payment technologies.

Numerous studies have scrutinized the association between market competition and adoption rates in the framework of payment systems. For example, a study by (Boustani, 2020a; Carlin et al., 2017) found that increased competition among prepaid card providers led to lower fees and increased adoption rates among consumers. Similarly, a study by (Arner, Barberis, & Buckley, 2017) found that the entry of FinTech firms into the payment processing market led to increased competition and lower costs for merchants, which in turn led to higher adoption rates for new payment technologies.

Overall, market competition plays a crucial role in shaping consumer trust, cost, and affordability of payment systems, which are key factors that influence adoption rates (Masihuddin et al., 2017; Romānova & Kudinska, 2016). As the payment system landscape continues to evolve with new technologies and players, it is important for policymakers and industry leaders to consider the impact of market competition on these factors in order to drive revolution and evolution in the payment ecosystem.

In the existing digital age, there is a growing market competition among payment providers, including banks, FinTech startups, and tech giants. This has led to increased innovation and cost-effectiveness of payment systems for consumers and businesses (Iman, 2019). The adoption rate of new payment technologies and systems is greatly influenced by the cost and affordability of these systems. With increased market competition, payment providers are forced to offer cost-effective solutions to attract more customers and gain a competitive edge (Gozman, Liebenau, & Mangan, 2018).

Studies have shown that market competition positively influences the cost and affordability of payment systems, ultimately leading to higher adoption rates among consumers and businesses (Ghahroud, Jafari, & Maghsoodi, 2021). For instance, FinTech startups have disrupted the traditional payment system landscape, offering more affordable and accessible solutions for consumers and businesses. This has led to increased adoption rates of mobile payment solutions, such as Venmo and Square Cash.

However, it is important to note that market competition can also lead to the development of complex and fragmented payment systems, which can hinder adoption rates. In such cases, the cost and affordability of payment systems may not be the only factors influencing adoption rates (Lee & Shin, 2018). Payment systems that are too complex or fragmented may deter consumers and businesses from adopting them, even if they are cost-effective.

Therefore, it is crucial for payment providers to balance market competition with the need for simplicity and ease of use in payment systems. By offering cost-effective and user-friendly payment solutions, payment providers can increase adoption rates and gain a competitive edge in the market.

In summary, market antagonism has a noteworthy bearing on the cost and affordability of payment systems, which in turn affects adoption rates among consumers and businesses. Payment providers need to focus on offering affordable and user-friendly payment solutions to attract more customers and gain a competitive edge in the market.

## **Developments and Challenges**

There are a number of developments on the horizon for the payment system of the future, all of which will unquestionably lead to an improvement in the transactions' speed, level of security, and level of efficiency (Chang et al., 2016). However, there are issues that need to be resolved before this revolutionary payment network would be able to satisfactorily meet the requirements posed by merchants and customers.

Issues regarding personal safety are among the most significant of the challenges. As our dependence on digital payment systems continues to expand, the risk of cyber-attacks will only continue to intensify (Dwivedi et al., 2021). This means that security has to be integrated into payment systems from the bottom up, and that these systems need to be continually updated to fight any new threats that emerge.

Interoperability is yet another significant factor to take into consideration. It will be necessary for an increasing number of payment systems to be interoperable with one another in order to deliver a simplified and consistent experience for customers and shops alike. In order to accomplish this objective, the ecosystem of payment must converge around a certain set of technical standards.

Another significant barrier to overcome is the regulation of the sector. As the evolution of payment systems continues, policymakers will need to work closely with industry experts in order to strike a balance between the competing priorities of consumer safety and innovation (Ghahroud et al., 2021). The delicate balance must be preserved at all costs since it is directly proportional to the state of the payment ecosystem.

Inclusion poses a final challenge. Even though the usage of digital payment methods is becoming more widespread, cash-based transactions are still commonly utilized (Gomber, Koch, & Siering, 2017). It is of the utmost importance that payment methods be established to make it possible for those who do not have access to traditional financial services to participate in the economy of the internet.

In conclusion, the future of payment systems holds a great deal of promise and opportunity, but there are also great deals of challenges that need to be resolved. In order to overcome these challenges and make sure that payments are safe, effective, and accessible to everyone, there will need to be collaboration between actors in the business, authorities in charge of legislation, and technology experts.

#### **Results and Discussion**

The study intended to reconnoitre the factors that can influence the adoption rate of new payment technologies or systems by consumers and businesses, specifically in the context of the future of payment systems and the technology trends that are expected to revolutionize the payment ecosystem.

The literature review revealed that technology adoption is a crucial factor that can impact the adoption rate of payment systems. With the increasing use of mobile devices and the internet, consumers and businesses are becoming more comfortable with using technology for payments. The adoption of new technologies such as blockchain-based systems and mobile payments can lead to a higher adoption rate of payment systems. Additionally, technology adoption can also impact the cost and affordability of payment systems. For example, the implementation of new technologies can lead to cost savings, which can be passed on to consumers, making payment systems more affordable.

Regulatory policies were also found to have a weighty impact on the payment structure landscape. Data privacy laws and open banking regulations, for instance, can increase consumer trust in payment systems, leading to a higher adoption rate. On the other hand, regulatory policies that increase the cost of payment systems can hinder adoption rates.

Market competition was identified as another crucial factor that can impact the cost and affordability of payment systems. The degree of competition among payment providers such as banks, FinTech startups, or tech giants can lead to cost savings and increased affordability, which can result in higher adoption rates. Moreover, competition can also lead to better user experience and convenience, which can increase trust and confidence in payment systems and lead to higher adoption rates.

Furthermore, the mediating variables, including trust and security, convenience and user experience, and cost and affordability, were found to have a profound influence on the adoption rate of payment systems. Trust and security were identified as critical factors that can increase consumer confidence in payment systems and lead to a higher adoption rate. Convenience and user experience were also found to be essential, as payment systems that are stress-free and easy to use and accessible can upturn adoption rates. Cost and affordability were identified as key factors, as the cost-effectiveness and affordability of payment systems can make them more accessible to a wider range of consumers and businesses.

Overall, the study highlights the importance of technology adoption, regulatory policies, market competition, and mediating variables in the adoption rate of payment systems. By understanding these factors and how they interact, policymakers and industry players can create a more conducive environment for the development and adoption of new payment technologies and systems. The future of payment systems lies in harnessing technology trends to create a more revolutionary and accessible payment ecosystem.

#### Conclusion

In conclusion, it is evident that the future of payment systems is closely linked to the adoption of new technologies and the regulatory policies and market competition that administer these systems. As technology adoption increases, so do trust and the embracing percentage of these new payment systems. Furthermore, cost and affordability play a critical role in the adoption

rate of new payment systems, and regulatory policies have a weighty impression on both cost and trust.

The emergence of blockchain-based payment systems, mobile payments, and other new technologies are transforming the payment system landscape. However, the successful adoption of these systems depends on a variety of factors, including trust, convenience, and cost.

Regulatory policies are vital in providing a background for the development and acceptance of new payment structures. Data privacy laws, open banking regulations, and other policies influence both the cost and trust associated with payment systems.

Market competition is also a significant factor in the adoption rate of new payment systems. Banks, FinTech startups, and tech giants all compete for market share, and the level of competition can impact both cost and trust.

Overall, the future of payment systems is exciting, with new technologies and regulatory policies shaping the landscape. For instance, the adoption rate of such new payment systems increases, businesses and consumers will have access to faster, more secure, and more convenient payment methods.

### **Future Research Avenues**

The study explored the impact of technology adoption, regulatory policies, and market competition on trust, cost and affordability, and adoption rate in the context of the future of payment systems. The literature review highlighted that trust and security, convenience and user experience, and cost and affordability are critical mediating variables that can affect the adoption rate of new payment technologies. The discussion highlighted that technology adoption has a significant impact on trust and cost, which further affects the adoption rate. Regulatory policies also have a direct impact on cost and affordability, which can affect the adoption rate. Additionally, market competition affects cost and affordability, which can, in turn, affect trust and adoption rate. Overall, the study suggests that fostering trust, convenience, and affordability is essential to promote the approval and adoption of new payment systems in the future. The future scope of the study could involve examining the impact of other variables such as demographic factors, cultural differences, and psychological factors on the adoption rate of new payment technologies.

#### References

- Akter, S., D'Ambra, J., & Ray, P. (2013). Development and validation of an instrument to measure user perceived service quality of mHealth. *Information Management*, 50(4), 181-195.
- Alladi, T., Chamola, V., Parizi, R. M., & Choo, K.-K. R. (2019). Blockchain applications for industry 4.0 and industrial IoT: A review. *Ieee Access*, 7, 176935-176951.
- Alzaydi, Z. J. M. S. L. (2021). The effect of intangible service quality on retailing during the COVID-19 pandemic in Saudi Arabia. *11*(8), 2279-2290.
- Arner, D. W., Barberis, J., & Buckley, R. P. (2017). FinTech and RegTech in a Nutshell, and the Future in a Sandbox: CFA Institute Research Foundation.
- Bollen, R. (2016). The Legal Status of Online Currencies—Are Bitcoins the Future? *Melbourne Business School*.

- Boot, A. W. (2017). The Future of Banking: From Scale & Scope Economies to Fintech 29. *European Economy*(2), 77-95.
- Boustani, N. M. (2020a). Traditional Banks and Fintech: Survival, Future and Threats. *ICT for an Inclusive World: Industry 4.0–Towards the Smart Enterprise*, 345-359.
- Boustani, N. M. (2020b). Traditional Banks and Fintech: Survival, Future and Threats. *ICT for an Inclusive World: Industry 4.0–Towards the Smart Enterprise*, 345-359.
- Carlin, B., Olafsson, A., & Pagel, M. (2017). Fintech adoption across generations: Financial fitness in the information age. Retrieved from
- Chan, R., Troshani, I., Rao Hill, S., & Hoffmann, A. (2022). Towards an understanding of consumers' FinTech adoption: The case of Open Banking. *International Journal of Bank Marketing*, 40(4), 886-917.
- Chang, Y., Wong, S. F., Lee, H., & Jeong, S. P. (2016). What motivates chinese consumers to adopt FinTech services: a regulatory focus theory. Paper presented at the Proceedings of the 18th annual international conference on electronic commerce: e-commerce in smart connected world.
- DeVries, P. D. (2016). An analysis of cryptocurrency, bitcoin, and the future. *International Journal of Business Management Commerce*, 1(2), 1-9.
- Djakova, A. (2017). FINTECH IN PAYMENTS: BOOSTING CONSUMER CHOICE AND TACKLING REGULATORY CHALLENGES. Central European University,
- Dwivedi, P., Alabdooli, J. I., & Dwivedi, R. (2021). Role of FinTech adoption for competitiveness and performance of the bank: A study of banking industry in UAE. *International Journal of Global Business Competitiveness, 16*(2), 130-138.
- Fadhul, S., & Hamdan, A. (2020). *The role of" fintech" on banking performance*. Paper presented at the European Conference on Innovation and Entrepreneurship.
- Firmansyah, E. A., Masri, M., Anshari, M., & Besar, M. H. A. (2023). Factors affecting fintech adoption: a systematic literature review. *FinTech*, 2(1), 21-33.
- Frost, J. (2020). The economic forces driving fintech adoption across countries. *The technological revolution in financial services: how banks, fintechs, customers win together*, 838, 70-89.
- Fu, J., & Mishra, M. (2022). Fintech in the time of COVID-19: Technological adoption during crises. *Journal of Financial Intermediation*, 50, 100945.
- Ghahroud, M. L., Jafari, F., & Maghsoodi, J. (2021). Review of the Fintech categories and the most famous Fintech start-ups. *Journal of FinTech Artificial Intelligence*, 1(1), 7-7.
- Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. *35*(1), 220-265.
- Gomber, P., Koch, J.-A., & Siering, M. (2017). Digital Finance and FinTech: current research and future research directions. *Journal of Business Economics*, 87, 537-580.
- Gozman, D., Liebenau, J., & Mangan, J. (2018). The innovation mechanisms of fintech start-ups: insights from SWIFT's innotribe competition. *Journal of Management Information Systems*, 35(1), 145-179.
- Guild, J. (2017). Fintech and the Future of Finance. Asian Journal of Public Affairs, 17-20.

- Haqqi, F. R., & Suzianti, A. (2020). Exploring risk and benefit factors affecting user adoption intention of fintech in Indonesia. Paper presented at the Proceedings of the 3rd Asia Pacific Conference on Research in Industrial and Systems Engineering.
- Holmes, C., & King, R. (2019). The evolution of business-to-business FinTech: What the future holds. *Journal of Payments Strategy Systems*, 13(3), 217-225.
- Hu, Z., Ding, S., Li, S., Chen, L., & Yang, S. (2019a). Adoption intention of fintech services for bank users: An empirical examination with an extended technology acceptance model. *Symmetry*, 11(3), 340.
- Hu, Z., Ding, S., Li, S., Chen, L., & Yang, S. (2019b). Adoption intention of fintech services for bank users: An empirical examination with an extended technology acceptance model. *Symmetry*, 11(3), 340.
- Iman, N. (2019). Traditional banks against fintech startups: A field investigation of a regional bank in Indonesia. *Banks Bank systems*, 14(3), 20-33.
- Jinasena, D. N., Spanaki, K., Papadopoulos, T., & Balta, M. E. (2020). Success and failure retrospectives of FinTech projects: A case study approach. *Information systems frontiers*, 1-16.
- Khan, B. U. I., Olanrewaju, R. F., Baba, A. M., Langoo, A. A., & Assad, S. (2017). A compendious study of online payment systems: Past developments, present impact, and future considerations. *International journal of advanced computer science applications*, 8(5).
- Lee, I., & Shin, Y. J. J. B. h. (2018). Fintech: Ecosystem, business models, investment decisions, and challenges. 61(1), 35-46.
- Li, G., Hou, Y., & Wu, A. (2017). Fourth Industrial Revolution: technological drivers, impacts and coping methods. *Chinese Geographical Science*, 27, 626-637.
- Masihuddin, M., Khan, B. U. I., Mattoo, M., & Olanrewaju, R. F. (2017). A survey on e-payment systems: elements, adoption, architecture, challenges and security concepts. *Indian Journal of Science Technology, 10*(20), 1-19.
- Mention, A.-L. (2019). The future of fintech. In (Vol. 62, pp. 59-63): Taylor & Francis Research-Technology Management.
- Mills, D. C., Wang, K., Malone, B., Ravi, A., Marquardt, J., Badev, A. I., . . . Kargenian, V. (2016). Distributed ledger technology in payments, clearing, and settlement.
- Najib, M., Ermawati, W. J., Fahma, F., Endri, E., & Suhartanto, D. (2021). Fintech in the small food business and its relation with open innovation. *Journal of Open Innovation: Technology, Market, Complexity*, 7(1), 88.
- Nguyen, Q. K. (2016). *Blockchain-a financial technology for future sustainable development*. Paper presented at the 2016 3rd International conference on green technology and sustainable development (GTSD).
- Ølnes, S., Ubacht, J., & Janssen, M. (2017). Blockchain in government: Benefits and implications of distributed ledger technology for information sharing. In (Vol. 34, pp. 355-364): Elsevier.
- Polasik, M., Huterska, A., Iftikhar, R., & Mikula, Š. (2020). The impact of Payment Services Directive 2 on the PayTech sector development in Europe. *Journal of Economic Behavior Organization*, 178, 385-401.

- Romānova, I., & Kudinska, M. (2016). Banking and fintech: A challenge or opportunity? In *Contemporary issues in finance: Current challenges from across Europe* (Vol. 98, pp. 21-35): Emerald Group Publishing Limited.
- Setiawan, B., Nugraha, D. P., Irawan, A., Nathan, R. J., & Zoltan, Z. (2021a). User innovativeness and fintech adoption in Indonesia. *Journal of Open Innovation: Technology, Market, Complexity*, 7(3), 188.
- Setiawan, B., Nugraha, D. P., Irawan, A., Nathan, R. J., & Zoltan, Z. (2021b). User innovativeness and fintech adoption in Indonesia. *Journal of Open Innovation: Technology, Market, Complexity*, 7(3), 188.
- Setiawan, B., Nugraha, D. P., Irawan, A., Nathan, R. J., & Zoltan, Z. (2021c). User innovativeness and fintech adoption in Indonesia. *Journal of Open Innovation: Technology, Market, Complexity*, 7(3), 188.
- Singh, S., Sahni, M. M., & Kovid, R. K. (2020). What drives FinTech adoption? A multimethod evaluation using an adapted technology acceptance model. *Management Decision*, 58(8), 1675-1697.
- Tseng, P.-L., & Guo, W.-C. (2022). Fintech, credit market competition, and bank asset quality. *Journal of Financial Services Research*, 61(3), 285-318.
- Wewege, L., Lee, J., Thomsett, M. C., & Banking. (2020). Disruptions and digital banking trends. *Journal of Applied Finance*, 10(6), 15-56.
- Xie, J., Ye, L., Huang, W., Ye, M. J. J. o. T., & Research, A. E. C. (2021). Understanding FinTech platform adoption: impacts of perceived value and perceived risk. *16*(5), 1893-1911.
- Yang, H. (2017). The UK's Fintech Industry Support Policies and its Implications. KIEP Research Paper, World Economy Brief, 17-05.
- Yang, W. (2017). Analysis on online payment systems of e-commerce.
- Yoshino, N., Morgan, P. J., & Long, T. Q. (2020). Financial literacy and fintech adoption in Japan.