

Encouraging Financial Inclusion in Developing Nations: Factors influencing the usage of Mobile Wallets in India

¹Dr. Poonam Painuly, ²Sandeep Rohal

¹Senior Assistant Professor, Department of Management Studies, Gurukula Kangri (Deemed to be University), Haridwar, Uttarakhand, India

²Research Scholar, Department of Management Studies, Gurukula Kangri (Deemed to be University), Haridwar, Uttarakhand, India

How to cite this article: Dr. Poonam Painuly, Sandeep Rohal (2024) Encouraging Financial Inclusion in Developing Nations: Factors influencing the usage of Mobile Wallets in India. *Library Progress International*, 44(3) 28987-28994

Abstract

The rapid advancement of digital technologies has positioned mobile wallets as a pivotal tool for fostering financial inclusion in developing nations, particularly in India. With the proliferation of smartphones and internet connectivity, mobile wallets offer a convenient and cost-effective means of accessing financial services, enabling underbanked and unbanked populations to participate in the formal economy. Despite their potential, the adoption of mobile wallets remains uneven across demographic and geographic divides, hindered by challenges such as low digital literacy, trust issues, and infrastructural gaps. This study explores the factors influencing mobile wallet usage in India, focusing on technological, economic, and social determinants. Leveraging a comprehensive survey of 400 respondents, it examines the impact of ease of use, perceived security, affordability, peer influence, and incentives on user behavior. The findings reveal significant variations in adoption based on age, income, education, and location, highlighting the urban-rural digital divide. The study underscores the role of government initiatives like Digital India and UPI integration in promoting mobile payments, while also identifying barriers such as cybersecurity concerns and resistance to change. It emphasizes the need for targeted awareness programs, improved digital infrastructure, and trust-building measures to accelerate adoption. By linking mobile wallets to broader financial inclusion goals, such as reducing economic disparities and empowering marginalized communities, the research provides actionable insights for policymakers, mobile wallet providers, and stakeholders. Furthermore, it situates India's experience within a global context, drawing parallels with successful implementations in other developing nations. This study contributes to the literature by offering a nuanced understanding of mobile wallet adoption and its role in bridging financial gaps, ultimately advocating for a collaborative effort to enhance digital financial ecosystems. The findings hold relevance for advancing Sustainable Development Goals, particularly those related to inclusive economic growth and innovation in financial services.

Keywords: Financial Inclusion, Mobile Wallets, Digital Payments, Technology Adoption, India, Financial Literacy, Digital Infrastructure, Urban-Rural Divide

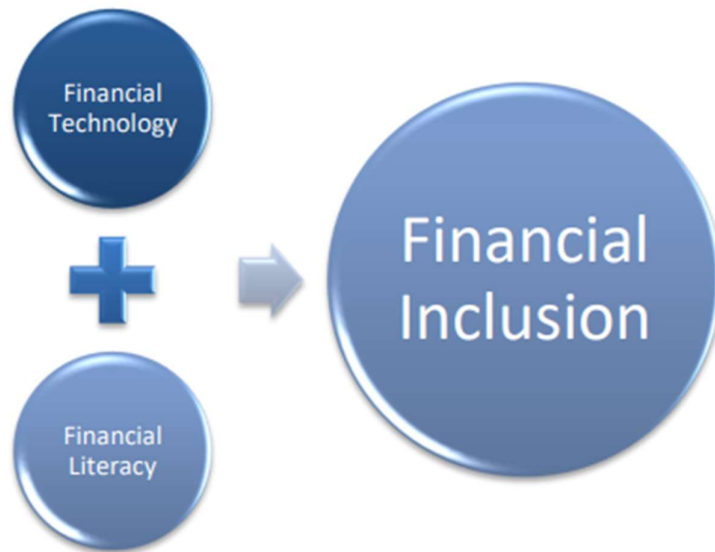
Introduction

Financial inclusion has emerged as a cornerstone for economic development, particularly in developing nations where a significant portion of the population remains excluded from formal financial systems. The advent of digital technologies has paved the way for innovative solutions, with mobile wallets gaining prominence as a convenient and cost-effective tool to bridge this financial gap. In India, the rapid growth of smartphone usage and internet penetration has created a fertile ground for the adoption of mobile wallets, transforming how individuals access and utilize financial services. Government initiatives such as Digital India, Jan Dhan Yojana, and the Unified Payments Interface (UPI) have further accelerated the adoption of digital payments, highlighting their role in reducing dependence on cash transactions and expanding financial access to underbanked populations. However, despite these advancements, the adoption of mobile wallets remains inconsistent, marked by disparities

across urban and rural regions, age groups, and socio-economic segments. Factors such as digital literacy, perceived security, technological ease of use, and socio-cultural influences play a critical role in determining user adoption. Additionally, challenges like infrastructure limitations, cybersecurity concerns, and resistance to change have hindered the widespread use of mobile wallets, particularly in rural areas. This study explores the key factors influencing mobile wallet adoption in India, focusing on how these tools contribute to financial inclusion by enabling accessible, affordable, and secure financial transactions. The research highlights the urban-rural digital divide and examines the behavioral, economic, and technological determinants that drive or inhibit adoption. Drawing insights from global success stories like M-Pesa in Kenya, the study situates India's efforts within a broader context, emphasizing the potential of mobile wallets to empower marginalized communities, reduce economic disparities, and promote inclusive growth. By identifying barriers and providing actionable recommendations for policymakers, mobile wallet providers, and stakeholders, this research contributes to the discourse on leveraging digital innovations for financial empowerment. The findings underscore the importance of targeted awareness campaigns, user-centric designs, and trust-building initiatives to enhance adoption and align mobile wallet usage with broader Sustainable Development Goals, such as fostering economic growth, reducing inequality, and driving innovation in financial ecosystems.

Mobile Wallets as a Catalyst for Financial Inclusion

Mobile wallets have emerged as a transformative tool in the quest for financial inclusion, particularly in developing nations like India. Acting as a bridge between formal financial institutions and the under served population, mobile wallets offer a low-cost, easily accessible platform for financial transactions. These digital tools have significantly reduced barriers such as geographical constraints, high transaction costs, and lengthy formalities associated with traditional banking. By enabling seamless peer-to-peer transfers, bill payments, and even microloans, mobile wallets cater to individuals who lack access to physical bank branches or formal credit systems. In rural and semi-urban areas, where financial inclusion has traditionally been limited, mobile wallets provide a vital solution by leveraging the widespread availability of smartphones and mobile networks. Additionally, government initiatives like Aadhaar - enabled payment systems and the Unified Payments Interface (UPI) have further enhanced the functionality of mobile wallets, ensuring interoperability and simplicity in digital transactions. The role of mobile wallets extends beyond mere convenience; they also empower small businesses, women, and marginalized communities by providing them with financial tools that foster economic participation. Moreover, the integration of artificial intelligence and blockchain technologies has addressed trust and security concerns, enhancing user confidence in digital payments. Mobile wallets are also instrumental in reducing reliance on cash, promoting transparency, and curbing the informal economy. As India moves towards a cashless society, mobile wallets not only facilitate financial access but also align with the Sustainable Development Goals of economic growth, reduced inequalities, and innovation in financial services. However, challenges such as digital illiteracy, infrastructural gaps, and cybersecurity risks still persist, requiring concerted efforts from stakeholders. By addressing these barriers and fostering a digital financial ecosystem, mobile wallets hold the potential to revolutionize financial inclusion, bridging gaps and empowering millions to participate in the formal economy.



Source: Role Of Financial Literacy In Adoption Of Digital Payments In India

Current Landscape of Mobile Wallet Usage in India

India's mobile wallet landscape has witnessed unprecedented growth in recent years, driven by rapid advancements in technology, government initiatives, and changing consumer behavior. The country's digital payment ecosystem is one of the fastest-growing in the world, with mobile wallets becoming integral to everyday transactions across urban and semi-urban regions. Leading platforms like Paytm, Google Pay, and PhonePe dominate the market, catering to a diverse user base ranging from urban professionals to small-scale rural merchants. The introduction of the Unified Payments Interface (UPI) has been a game-changer, enabling seamless interoperability among mobile wallets and traditional banking systems. Government policies such as demonetization in 2016 and the Digital India initiative have significantly boosted mobile wallet adoption, compelling consumers and businesses to transition to digital payments. Additionally, initiatives like the PM Jan Dhan Yojana and Aadhaar-based payment systems have further integrated underserved populations into the financial mainstream. The adoption of mobile wallets has also been propelled by the proliferation of e-commerce, food delivery apps, and on-demand services, where digital payments are often incentivized through discounts and cashback offers. However, despite this growth, the usage of mobile wallets in rural areas and among older demographics remains limited. Issues such as low digital literacy, inconsistent internet connectivity, and mistrust of digital platforms hinder broader adoption. Nevertheless, mobile wallet usage is steadily expanding, supported by increasing smartphone penetration and robust policy frameworks. The pandemic has further accelerated this trend, with contactless payments becoming a necessity. As mobile wallets continue to gain traction, they are reshaping consumer behavior, fostering transparency, and contributing to the formalization of India's economy. Their growing influence underscores the need for targeted strategies to address demographic disparities, build trust, and enhance digital literacy, ensuring inclusive growth and financial access for all.

Challenges in Mobile Wallet Adoption

Despite the promising growth of mobile wallets in India, several challenges impede their widespread adoption, particularly in rural and underserved areas. One of the primary barriers is low digital literacy, especially in rural regions, where many potential users are unfamiliar with smartphone functionalities or digital payment processes. Additionally, inconsistent internet connectivity in remote areas further limits the accessibility and reliability of mobile wallet services. Another significant challenge is the lack of trust in digital platforms, with many users expressing concerns over data privacy, cybersecurity, and the risk of fraud. The perception of mobile wallets as unreliable, coupled with a lack of robust grievance redressal mechanisms, discourages users from embracing these tools. Cultural and generational resistance also plays a role, as older populations and individuals in conservative communities are often reluctant to transition from cash to digital payments. Moreover, infrastructural limitations such as inadequate mobile network coverage and unreliable electricity supply in certain areas further exacerbate the digital divide. For small merchants and businesses, the costs associated with adopting digital payment systems,

such as transaction fees or the need for compatible devices, act as deterrents. On the regulatory front, while policies have largely supported digital payments, frequent updates and compliance requirements can create confusion among users and service providers. Finally, economic factors, including smartphone affordability and the high cost of mobile data, pose additional barriers for low-income households. Addressing these challenges requires a multi-faceted approach, including targeted digital literacy programs, incentives for first-time users, investments in digital infrastructure, and enhanced security measures to build trust. Collaboration between the government, fintech companies, and telecom providers is crucial to overcoming these obstacles and fostering inclusive adoption of mobile wallets across diverse demographics.

The Role of the COVID-19 Pandemic

The COVID-19 pandemic has acted as a catalyst for the adoption of mobile wallets, accelerating the shift towards digital payments as people sought contactless and convenient financial solutions. With lockdowns, social distancing norms, and the fear of physical contact, traditional cash transactions became less viable, leading to an unprecedented surge in digital payments. Mobile wallets emerged as a lifeline for consumers and businesses alike, enabling safe and seamless transactions during a time of heightened health concerns. The pandemic also highlighted the importance of financial inclusion, as millions of unbanked and underbanked individuals relied on mobile wallets for accessing government subsidies, remittances, and essential services. E-commerce platforms, online grocery stores, and food delivery services experienced a significant uptick in demand, further boosting the use of mobile wallets. Government measures, such as encouraging digital payments for subsidies and relief disbursements, further reinforced the importance of these platforms. However, the pandemic also underscored existing challenges, such as the digital divide, with rural areas and low-income groups struggling to adopt mobile wallets due to limited access to smartphones, internet connectivity, and digital literacy. Additionally, as mobile wallets became more prevalent, the risk of cybercrime and fraud increased, highlighting the need for stronger security frameworks. Despite these challenges, the pandemic has undeniably reshaped consumer behavior, normalizing the use of mobile wallets and paving the way for a more digitally inclusive society. It has also encouraged fintech companies to innovate and expand their services, making digital payments more accessible, user-friendly, and secure. As the world emerges from the pandemic, the momentum gained in mobile wallet adoption presents a unique opportunity to bridge financial gaps and foster economic recovery.

Importance of Understanding Influencing Factors

Understanding the factors that influence mobile wallet adoption is critical for designing effective strategies to promote financial inclusion and digital payments in India. Adoption is driven by a complex interplay of technological, economic, social, and cultural factors that vary across different demographics and regions. Ease of use, perceived security, and the availability of incentives such as cashback or discounts are among the primary drivers of adoption, particularly for urban and tech-savvy users. In contrast, for rural populations and older generations, trust in the technology, digital literacy, and peer influence play a more significant role. Socio-economic factors, including income, education, and smartphone affordability, also impact adoption rates, with lower-income groups facing greater barriers to entry. Cultural norms and resistance to change further influence user behavior, especially in conservative or less technologically advanced communities. Moreover, external factors such as government policies, regulatory frameworks, and the availability of infrastructure like reliable internet connectivity significantly shape the adoption landscape. Understanding these influencing factors is essential for identifying gaps and tailoring interventions to address the diverse needs of users. For instance, targeted awareness campaigns, simplified user interfaces, and enhanced security measures can help build trust and encourage first-time users. Similarly, incentives for merchants to adopt digital payment systems and investments in rural digital infrastructure can further expand the reach of mobile wallets. By delving into these factors, this study aims to provide actionable insights for policymakers, mobile wallet providers, and stakeholders, fostering a more inclusive and equitable digital financial ecosystem.

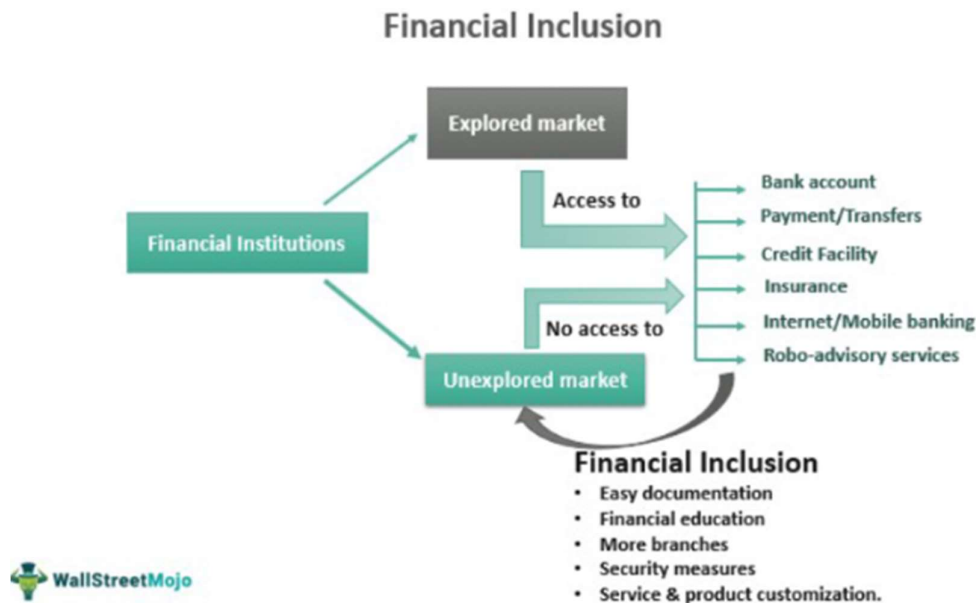
Global Perspectives and Relevance

Mobile wallets have gained global traction as a tool for financial inclusion, with successful implementations offering valuable lessons for India. For example, Kenya's M-Pesa has become a benchmark for mobile wallet adoption, transforming the financial landscape by enabling millions of unbanked individuals to access financial

services through basic mobile phones. Similarly, platforms like Alipay and WeChat Pay in China have revolutionized digital payments by integrating a wide range of services, from retail transactions to public services. These global examples highlight the potential of mobile wallets to address systemic financial gaps, foster economic empowerment, and promote transparency. India, with its diverse population and unique socio-economic challenges, offers a compelling case for adapting and scaling such models. The country's initiatives, such as UPI and Aadhaar-enabled payment systems, demonstrate significant progress but also underline the need for addressing regional disparities and cultural nuances. Comparative studies with other developing nations reveal common barriers, such as digital illiteracy and trust issues, but also emphasize the importance of partnerships between governments, telecom providers, and fintech companies. By drawing on global experiences, India can refine its strategies to expand mobile wallet adoption, ensuring that digital financial services are accessible to all segments of the population. The relevance of mobile wallets extends beyond national borders, contributing to broader discussions on leveraging technology for inclusive economic growth and achieving Sustainable Development Goals.

Contribution to Financial Inclusion Goals

Mobile wallets play a pivotal role in advancing financial inclusion goals by bridging the gap between traditional banking systems and underserved populations. Their accessibility, affordability, and ease of use make them a powerful tool for integrating the unbanked into the formal economy. By providing a platform for secure, low-cost transactions, mobile wallets reduce dependency on cash and enable access to essential financial services such as savings, credit, and insurance. In India, mobile wallets have empowered marginalized groups, including women, small business owners, and rural communities, fostering economic participation and resilience. These tools align with the Sustainable Development Goals (SDGs), particularly those focused on reducing inequalities, promoting economic growth, and driving innovation in financial services. For example, the ability of mobile wallets to facilitate government disbursements and direct benefit transfers has streamlined welfare distribution, ensuring that subsidies reach intended beneficiaries without intermediaries. Moreover, mobile wallets contribute to financial transparency, curbing corruption and enabling better governance. However, achieving these goals requires addressing barriers such as digital literacy, infrastructural gaps, and cybersecurity concerns. Investments in education, infrastructure, and trust-building measures are essential to maximize the potential of mobile wallets as a catalyst for inclusive growth. By fostering collaborations between stakeholders, including the government, fintech companies, and telecom providers, India can create a robust digital financial ecosystem that aligns with its broader vision of economic empowerment and social equity. This study emphasizes the critical role of mobile wallets in achieving these goals and provides actionable insights to accelerate their adoption and impact.



Source: Financial Inclusion Goals

Review of literature

Saxena and Goyal 2023, studied the "Role of Financial Literacy in Adoption of Digital Payments in India". The study founded that financial literacy plays a critical role in the adoption of digital payments. The study also suggested that targeted education programs are essential for achieving financial inclusion, reducing poverty, and fostering economic growth.

Rahman et al. 2024, studied about "Promoting Fintech: Driving Developing Country Consumers' Mobile Wallet Use Through Gamification and Trust", and founded that gamification and trust significantly influence mobile wallet usage, emphasizing the need for secure and engaging platforms to foster continuous adoption and financial inclusion.

Nawi et al. 2022, in the study "Promoting Sustainable Financial Services Through the Adoption of eWallet Among Malaysian Working Adults", said that perceived usefulness, ease of use, and trust are key factors driving eWallet adoption, with household income acting as a moderating variable in influencing usage behavior.

Shankar and Datta 2018, examined the "Factors Affecting Mobile Payment Adoption Intention: An Indian Perspective". The study founded that perceived ease of use, usefulness, and trust significantly impact mobile payment adoption, while subjective norms and personal innovativeness have limited influence on user intentions.

Qadri 2023, examined "Critical Factors That Affect the Adoption of Mobile Payment Services in Developed and Developing Countries". The study founded that government support, trust, and security are critical for mobile payment adoption, with disparities between developed and developing nations driven by infrastructural and trust-related challenges.

Omar and Inaba 2020, evaluated "Does Financial Inclusion Reduce Poverty and Income Inequality in Developing Countries?" The study concluded that financial inclusion significantly reduces poverty and income inequality, highlighting the role of internet access and supportive policies in fostering inclusion.

Johri et al. 2024, in the study "Digital Financial Inclusion in Micro Enterprises", said that internet access, education, and owner experience are crucial determinants of digital financial inclusion, helping micro-enterprises overcome regulatory obstacles and promoting ease of doing business.

Demirguc-Kunt et al. 2015, measured "The Global Findex Database 2014: Measuring Financial Inclusion Around the World", and founded that financial inclusion significantly increased globally between 2011 and 2014, driven by mobile money innovations and government policies. The study emphasized the role of technology and digitized payments in promoting account ownership among the unbanked.

Lashitew et al. 2018, in the study "Mobile Phones for Financial Inclusion: What Explains the Diffusion of Mobile

Money Innovations?", said that mobile money services, like M-Pesa in Kenya, significantly promote financial inclusion in developing countries. They identified institutional factors and regulatory environments as crucial drivers of mobile money adoption.

(Sebastian Schuetz and Viswanath Venkatesh 2020), in the study "Blockchain, Adoption, and Financial Inclusion in India: Research Opportunities", said that blockchain has the potential to address financial exclusion in rural India by overcoming barriers like geographical access, high costs, and financial illiteracy. They highlighted the need for research on adoption patterns in rural contexts.

Shanmugasundaram 2024, explored the Factors Influencing Unified Payments Interface (UPI) Adoption Among Senior Citizens in India. The study founded that perceived usefulness, trust, and social influence are key determinants of UPI adoption among the elderly, while language barriers and security concerns are significant challenges.

Research Methodology

The study utilized a survey-based approach to investigate the factors influencing mobile wallet adoption in India. Respondents were selected to represent a diverse population across urban and rural areas, with careful attention to capturing varying perspectives on mobile wallet usage. The survey focused on ease of use, security perceptions, affordability, peer influence, and incentives, aiming to understand how these factors shape user behavior. The structured format allowed respondents to provide insights on challenges and offering a comprehensive view of adoption trends. This approach ensured the study's relevance to both policymakers and stakeholders in promoting financial inclusion.

Result and discussion

The study revealed that mobile wallet adoption in India is significantly influenced by ease of use, perceived security, affordability, and incentives, with peer influence also playing a notable role. Adoption rates varied across demographics, with urban users, younger age groups, and individuals with higher education levels more likely to use mobile wallets. Government initiatives like UPI integration and Digital India campaigns have been instrumental in driving adoption, though challenges such as digital literacy gaps, cybersecurity concerns, and infrastructural limitations persist. The findings highlight the importance of trust-building measures and targeted awareness programs to bridge the urban-rural digital divide and promote inclusivity.

Conclusion

Mobile wallets have emerged as a transformative tool for fostering financial inclusion in developing nations, particularly in India, by bridging the gap between traditional banking services and underserved populations. This study highlights the critical factors influencing mobile wallet adoption, including ease of use, trust, security, and digital literacy, while addressing barriers such as infrastructural gaps and cultural resistance. Government initiatives and technological advancements have further accelerated adoption, promoting transparency and economic participation. To maximize their impact, stakeholders must focus on trust-building, targeted education, and enhancing digital infrastructure. Mobile wallets, thus, play a pivotal role in advancing inclusive growth and reducing socio-economic disparities.

Reference

- Demircuc-Kunt, A., Klapper, L., Singer, D., & Van Oudheusden, P. (2015). The Global Findex Database 2014: Measuring Financial Inclusion Around the World. World Bank Group.
- Lashitew, A. A., Van Tulder, R., & Liasse, Y. (2018). Mobile Phones for Financial Inclusion: What Explains the Diffusion of Mobile Money Innovations? *Research Policy*, 47(5), 1-12.
- Schuetz, S. W., & Venkatesh, V. (2020). Blockchain, Adoption, and Financial Inclusion in India: Research Opportunities. *International Journal of Information Management*, 52, 101936.
- Shanmugasundaram, R. (2024). Exploring the Factors Influencing Unified Payments Interface (UPI) Adoption Among Senior Citizens in India. Master's Thesis, University of Jyväskylä, Faculty of Information Technology.
- Saxena, D., & Goyal, N. (2023). Role of Financial Literacy in Adoption of Digital Payments in India. *South Asian Journal of Marketing & Management Research*, 13(6). DOI: 10.5958/2249-

877X.2023.00009.7

- Rahman, S. U., Nguyen-Viet, B., & Nguyen, Y. T. H. (2024). Promoting Fintech: Driving Developing Country Consumers' Mobile Wallet Use Through Gamification and Trust. *International Journal of Bank Marketing*, 42(5), 841-869. DOI: 10.1108/IJBM-01-2023-0033.
- Che Nawi, N., Al Mamun, A., Hayat, N., & Seduram, L. (2022). Promoting Sustainable Financial Services Through the Adoption of eWallet Among Malaysian Working Adults. *SAGE Open*, January-March 2022. DOI: 10.1177/21582440211071107.
- Dirir, S. A. (2022). Performing a Quantile Regression to Explore Financial Inclusion in Emerging Countries and Lessons African Countries Can Learn from Them. *European Journal of Development Studies*, 2(5). DOI: 10.24018/ejdevelop.2022.2.5.153.
- Shankar, A., & Datta, B. (2018). Factors Affecting Mobile Payment Adoption Intention: An Indian Perspective. *Global Business Review*, 19(3S), 72S-89S. DOI: 10.1177/0972150918757870.
- Qadri, E. N. (2023). Critical Factors that Affect the Adoption of Mobile Payment Services in Developed and Developing Countries. Master's Thesis, Uppsala University.
- Omar, M. A., & Inaba, K. (2020). Does Financial Inclusion Reduce Poverty and Income Inequality in Developing Countries? A Panel Data Analysis. *Economic Structures*, 9(37). DOI: 10.1186/s40008-020-00214-4.
- Johri, A., Asif, M., Tarkar, P., Khan, W., & Wasiq, M. (2024). Digital Financial Inclusion in Micro Enterprises: Understanding the Determinants and Impact on Ease of Doing Business from World Bank Survey. *Humanities and Social Sciences Communications*, 11(361). DOI: 10.1057/s41599-024-02856-2.
- Kabakova, O., & Plaksenkov, E. (2018). Analysis of Factors Affecting Financial Inclusion: Ecosystem View