

ROLE OF FINTECH IN ENHANCING FINANCIAL INCLUSION IN EMERGING ECONOMIES

Salma Begum

Associate Professor

Faculty of Management Studies, CMS Business School, JAIN (Deemed-to-be University),
Bangalore, Karnataka, India

Diksha Singh

MBA Student,

Faculty of Management Studies, CMS Business School, JAIN (Deemed-to-be University),
Bangalore, Karnataka, India

ABSTRACT

Since all societal segments have accessibility to formal financial services, financial inclusion plays a crucial role in promoting inclusive economic development. However, due to institutional, structural, and economic factors, a sizable segment of the populace in a developing country lacks access to formal financial services. Fintech, or financial technology, has recently been recognized by the market as one of the key current drivers with the ability to close the present gaps in financial services.

This research paper tries to explore Fintech's potential to advance financial inclusion in developing economies in a quantitative manner by using secondary data to research the topic. The researchers focus on the indication of Fintech's growth, including the use of digital payment methods, mobile money accounts, and online transactions. The research considers indications of financial inclusion in addition to the growth of Fintech. as well. The control variables also include internet penetration and income levels, which are studied to have an in-depth understanding of the study.

The results show that the use of Fintech has been steadily increasing, which is compatible with the rise in the rate of the financial inclusion. Regression analysis and correlation show that there is a substantial, positive relationship between the growth of Fintech as well as financial inclusion, and that high levels of digital banking activity are correlated with high levels of financial inclusion. Nevertheless, the effects on access to formal credit are moderate.

The paper concludes that, as important as Fintech is projected to promote financial inclusion, the factor is also subject to other variations, known as supporting factors.

Keywords: Digital payments, digital banking, financial inclusion, emerging economies, and financial technology (Fintech)

1. INTRODUCTION

Financial inclusion is now considered to be a key element of sustainable economic development, especially in developing nations, where a sizable section of the populace is officially excluded from the financial system. Savings accounts, credits, insurance, as well as payment services are examples of financial services that are essential to the growth of the individual and business as they are actively involved in the financial activities of the economy, hence improving the quality of life.

Despite several initiatives to improve financial inclusion within terms of institutions and policies, the level of financial exclusion remains, because of many factors such as low

income levels, financial illiteracy, inadequate banking network, and backward geography. The banking system has been unable to penetrate the low-served markets, thus creating a widening gap between the financial inclusion and excluded persons.

Based on this scenario, Fintech or Financial Technology, as it is traditionally referred to, has received significant attention as a new trend with enormous potential to fill this gap. Fintech makes use of different digital technologies to improve the financial services' affordability and accessibility in a more efficient and less expensive manner. The development of digital payment systems, mobile banking services, and online financial services has transformed how an individual uses financial services.

Easy access to Fintech services has been enhanced using smartphones and the internet, where many people access the internet with ease. The governments and regulators have played a crucial role in promoting the use of Fintech services, increasing the drive of innovation in this area, and putting in place measures to uplift financial inclusion by using technology-based solutions.

The specific study's goal is to assess how Fintech development affects financial inclusion for developing nations by looking at a number of important metrics related to access to financial systems and digital financial services. In order to determine the relationship between Fintech adoption and financial inclusion, this study will use a quantitative method using regression analysis and correlation.

1.1 Financial Technology (Fintech)

The use of technology in the delivery and use of financial services is referred to as financial technology. In particular, fintech deals with a wide range of technologies, including blockchain-based networks, digital payments, mobile wallets, peer-to-peer financing networks, and robo-advisory networks. The purpose of Fintech technologies is to streamline financial operations, make financial services cheaper, and more convenient.

The provision of financial services for the underbanked demographic group is Fintech's biggest contribution. Online payments and mobile banking do not require physical branches of the bank, including physical barriers to the bank, which is now a geographical challenge because of the underbanked niche. There is also very low documentation in Fintech services, and therefore, financial services become accessible to the underbanked segment. The underbanked segment does not have formal identification documents and credit history.

Fintech services are growing quickly as a result of the advancement in information and communication technology, and the need by consumers to seek convenience. The fintech services have therefore emerged as an enabler to the pursuit of financial inclusion in nations where banking services are difficult to obtain.

1.2 Financial Inclusion in Developing Economies

The accessibility and availability of inclusive, reasonably priced financial services for all individuals and enterprises in the economy is known as financial inclusion, irrespective of their socio-economic status. It is an essential sector in combating poverty and maintaining economic stability and inclusive economic growth.

In the economies of emerging nations around the world, financial inclusion is a major problem. Since a sizable portion of the economy depends on the informal sector, it is neither stable nor abundant. Moreover, there is a deficiency of access to formal credit.

With the advent of digital financial services, financial institutions are additionally able to reach a wider audience. Digital wallets, mobile banking, and online payment systems have assisted consumers in transact their financial processes without necessarily having physical interactions with banks. This comes very handy in terms of rural and remote locations that lack banking facilities.

It is also worth mentioning that financial inclusion does not solely depend on the availability of financial services, but it also depends on several different factors, such as the level of digital literacy, internet availability, and income level. Fintech is therefore essential to improving financial inclusion, that's only achievable in a conducive setting.

1.3 Indicators of Fintech Development and Financial Inclusion

The several metrics that characterize the development of Fintech as well as financial inclusion must be taken into account while analyzing the relationship that exists or can be provided between the two. Fintech development is typically gauged by a variety of metrics, such as the quantity of online transactions, the number of people using mobile payments, and the number of individuals utilising internet banking services.

Financial inclusion, on the other hand, is measured by the various indicators that include the number of accounts existing within the economy, the number of individuals accessing credit, the number of individuals accessing various kinds of financial services, as well as the number of individuals saving.

Along with these fundamental reasons, such control factors as the internet penetration and income levels are also taken into account because they have a big impact on Fintech uptake and financial inclusion. Increased internet penetration assists in increased access to Fintech, and increased income levels assist in increased usage of Fintech services.

A combination of these factors will enable this study to develop a more ideal picture of how Fintech might help improve financial inclusion in developing nations.

2. LITERATURE REVIEW

The financial technology (Fintech) industry's recent rapid expansion has been a topic of active research due to the enormous prospects it promises in changing the traditional vision of the financial environment and promoting the notion of financial inclusiveness, particularly in the developing and emerging markets. The extant literature has reiterated the role of Fintech in offering financially inclusive services to the disadvantaged part of the economy. In the same regard, Ediagbonya and Tioluwani (2022) assert that, despite the fast pace of digital financial innovation, the insufficiency of infrastructure, the absence of electricity, insufficient connectivity, financial illiteracy, and lack of trust, as well as data privacy, remain problems as far as financial inclusion in the emerging economies is concerned. The same results have been noted in other studies with a special emphasis on the context within which the given country, i.e., The development of digital payment systems as well as mobile banking services have been observed to improve availability of financial services in India, but not to the extent that will reduce the gap between urban and rural populations. The location of the country of India has witnessed such a significant positive relationship between the development of Fintech and economic growth (Begum & Selvi, 2023).

There is also empirical research proving that formal financial services are developing as a result of Fintech. In the research conducted by Ramadhan et al. (2025) as a systematic review of the existing Fintech practices in emerging economies, the authors find that Fintech innovations lower the cost of transaction, expand reach to services, and raise the pace of

financial exchange, thereby promoting engagement in formal financial services. Nevertheless, they also state that, despite the positive contributions, Fintech must deal with the issues related to cybersecurity threats, digital infrastructure, and digital literacy. At the same time, the study by Sethi et al. (2024) also states that Fintech can assist in financial inclusion in the countries, but the contribution of Fintech to financial inclusion varies depending on the country. The study by Sharma et al. (2023) concludes that Fintech is a factor in the digital engagement and sustainable economic development, yet the researchers also present the idea that the role of governmental policies, regulations, and technologies is important in maximizing the contribution.

Other than the availability of simple banking products, Fintech has also been examined on socio-economic implications. The connection between Fintech and financial globalization and foreign banking presence in the developing countries is investigated in a study by Azmeh et al. (2025). The conclusion is that Fintech will be a good shift towards poverty and inequality reduction, if it is paired with an inclusive financial policy. Nevertheless, the presence of foreign banks might not correspond to any positive correlation with these factors and may even lead to inequality. In a study investigating the implications of Fintech to entrepreneurship and small business development, the research established that Fintech is critical to serving credit products, payment systems, and financial management tools. In a study by Adeniran et al. (2024), it is reiterated that artificial intelligence, blockchain technology, and the application of mobile money services can enable small and medium enterprises and women entrepreneurs because it removes barriers to entry into formal financial systems. Nevertheless, regulatory risks and technological and digital literacy problems have been identified as significant obstacles in this respect.

Numerous macro-level studies also offer proof of Fintech's effectiveness in boosting financial inclusion. As an example, Mashoene et al. (2025) used a panel data set on developing and emerging economies to show that access to financial accounts, digital payments, and access to credit in relation to financial inclusion lowers the level of Fintech development. The research further argues that Fintech will play a significant role in accomplishing the aims of universal sustainable development by integrating the underprivileged into the financial system. Bibliometric study findings suggest that the research on Fintech has been on a vertical increase since the beginning of the 2010s, and that mobile banking, peer-to-peer lending, blockchain technology, and digital payments are some of the most popular research topics in Fintech, as was disclosed by Ozili et al. (2024). These technologies are usually considered to have the ability to break the traditional boundaries of the conventional banking system, such as high transaction costs.

The geographical and behavioral study pertains to additional factors that impact Fintech adoption and its aid to financial inclusion. Agrawal (2022) opines that Fintech companies can play a significant role in offering cheap and quicker financial services at the lower levels, thus enhancing financial inclusion. According to a study commissioned by Loo (2019) in the ASEAN economies, there are high chances that Fintech could be adopted to offer financial inclusion in these economies due to the increase in internet and smartphone adoption. It has been shown that behavioural research indicates that the perceived usefulness, ease of use, trust in technology, and governmental support are major influences on the willingness of people to use digital financial services in contrast to perceived risk, privacy and a lack of digital skills that have been identified as the significant inhibiting factors in this context (Nazir et al., 2025). It has been reported that cooperation between Traditional financial organizations and Fintech companies can be one of the key factors in reaching out to the

people who lack financial inclusion and enhancing efficiency in delivering financial services in India (Raj & Upadhyay, 2020).

Despite such advantages, it is a shared characteristic of the literature that financial technology, in and of itself, is insufficient for the inclusive growth of financial services. Instead, it depends heavily on internet infrastructure, laws, financial literacy, and socioeconomic circumstances rather than just one or two. Cybersecurity, data privacy, digital exclusion, and the challenges of unequal access to technology are some of the challenges that are yet to be overcome. Financial exclusion may also be a possibility, since financial technology contributes to both the creation and reduction of inequality. Generally, it can be stated that financial technology is a revolutionary phenomenon not only that can transform the financial systems in an essential way, but one that will require a combination of variables and includes the work of individuals, financial systems, and governments.

3. RESEARCH METHODOLOGY

The study is founded on the principle of quantitative research, and it analyzes, based on secondary data, the relationship between financial inclusion and financial technology in emerging nations. It obtains the information from reliable sources, including financial reports, records, and the World Bank. To investigate the dynamics between specific variables, the study is conducted over a predetermined period of time.

To ascertain how Fintech development affects financial inclusion, the study depends on the existence of independent and dependent factors. Financial inclusion is considered a dependent variable in this study. Ownership, accessibility to financial services, while employing of financial systems are all taken into consideration when measuring the dependent variable. The Fintech development indicators—digital payments, mobile money, as well as online transactions—are among the independent variables.

To improve the accuracy in the results, this study takes into account other control factors in addition to these primary ones. Since internet penetration as well as income are thought to have a major impact on Fintech use and financial inclusion, they are the control variables.

In this study, a few statistical tools are used to analyze it. Correlation analysis is used to examine the connection between fintech as well as financial inclusion. Additionally, it is used to confirm the strength and direction of the relationship between Fintech as well as financial inclusion.

Regression analysis can be used to confirm the impact of independent variables upon the dependent variable and to confirm the existence of a functional link between both dependent and independent variables.

The regression equation to be applied in this study is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

The findings gained by the use of the above statistical methods are further elucidated to comprehend the type of relationship that has been found between Financial inclusion and fintech.

4. DATA ANALYSIS AND INTERPRETATION

4.1 Trend in Fintech Development Indicators

Figure 1 shows the increase in the growth indicators of Fintech over the years. These development indicators are the digital payments, the widespread usage of mobile money and

the internet. The figure shows that digital payments have been gradually increasing over the years. It means that society is moving towards using cashless kind of transactions to a greater extent. There has also been an upsurge in mobile money services, which means that more individuals are being served by the financial services. the widespread usage of the internet and mobile money. which means that more individuals will access internet services, which include Fintech.

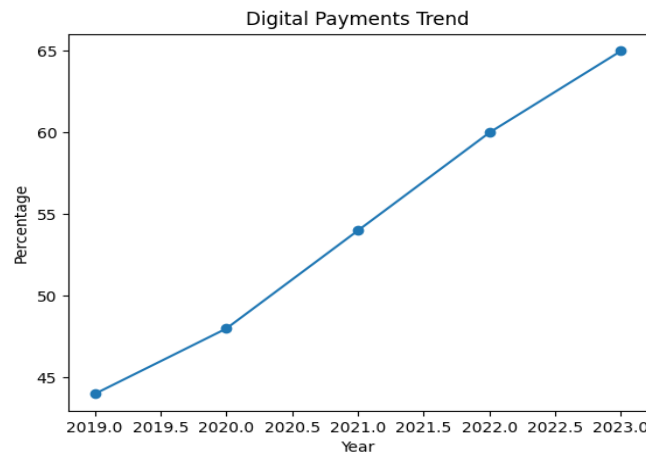


Figure 1: Growth of Digital Payment Usage

4.2 Trend in Financial Inclusion Indicators

The degree of financial integration in account ownership and financial service utilization shows a trend, as shown in Figure 2.

The data displayed in the chart demonstrates that the level of financial inclusion has been steadily rising over time. This is demonstrated by the rise in account ownership. This indicates that the number of individuals who make up the formal sector is increasing. Furthermore, there is a rise in the amount of financial services used, which suggests a rise in participation in the formal sector. This serves as a guide about how digital financial services affect the degree regarding financial accessibility.

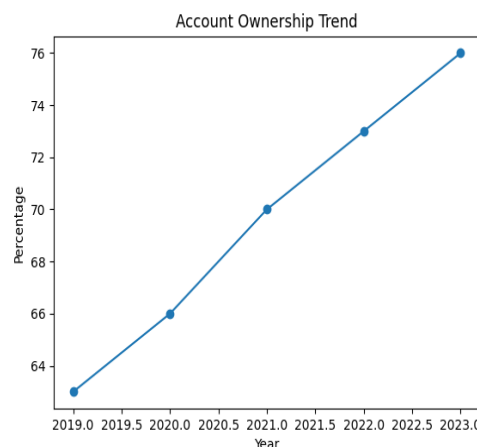


Figure 2: Growth in Account Ownership

4.3 Correlation Analysis

The relationship between the indices of Fintech development as well as financial inclusion is tested using correlation analysis.

Table 1: Correlation Matrix

Variables	Digital Payments	Mobile Money	Transactions	Account Ownership	Credit Access
Digital Payments	1.00	0.78	0.85	0.82	0.66
Mobile Money	0.78	1.00	0.80	0.75	0.62
Transactions	0.85	0.80	1.00	0.84	0.69
Account Ownership	0.82	0.75	0.84	1.00	0.72
Credit Access	0.66	0.62	0.69	0.72	1.00
Financial Service Usage	0.83	0.79	0.86	0.85	0.74

The results show that all of the Fintech metrics are positively correlated with financial inclusion. Digital payments including mobile money have a positive correlation with financial inclusion, meaning that the more digital financial services are used, the higher the degree of financial inclusion. Internet penetration is favorably correlated with financial inclusion as well.

4.4 Regression Analysis

Regression analysis is used to examine the impact of Fintech indicators upon financial inclusion.

Table 2: Regression Results

Variable	Coefficient (β)	Standard Error	t-value	p-value
Constant	0.198	0.038	5.21	0.000
Digital Payment Usage (%)	0.36	0.069	5.17	0.001
Mobile Money Accounts (%)	0.27	0.061	4.42	0.002
Digital Transactions (%)	0.33	0.067	4.92	0.001
Internet Penetration (%)	0.22	0.055	3.98	0.003
GNI per Capita (USD)	0.16	0.047	3.40	0.005

The regression findings show that all the independent variables are positively affecting financial inclusion. Moreover, financial inclusion is highly affected by digital payments. This indicates that, as an increment in digital transactions, financial inclusion is also increasing. Additionally, the use of mobile money has a significant positive impact on financial inclusion. Because of this, mobile money is crucial for improving financial inclusion in remote areas.

Another important factor that influences financial inclusion is internet penetration. This is explained by the fact that it helps make online financial platforms more accessible. In summary, it is clear that Fintech development is crucial to improving financial inclusion.

4.5 Discussion

The findings derived during this research are consistent with the available literature, indicating that a major source to financial inclusion is Fintech. This can be attributed to the fact that the positive association of digital payment with mobile money and financial inclusion indicates that technology is enhancing access to finance.

The results also show that infrastructure support including internet access, is essential to boosting Fintech's efficacy. In conclusion, it is evident that Fintech plays a major role in promoting financial inclusion. The findings also indicate that infrastructural support, including the availability of the internet, is crucial in enhancing the effectiveness of Fintech. Conclusively, Fintech is a significant source of financial inclusion.

5. FINDINGS

The key conclusions made in this research are as follows:

The indicators of future technological advancements in the fields of Fintech, digital payments, mobile payments, and internet penetration have been reported to show a consistent upward trend throughout the period in question.

Vertical progress has also been recorded against the financial inclusion indicators, including the use of financial services and account ownership.

Correlation research has revealed a positive association between Fintech development with financial inclusion. This shows that financial inclusion will rise in tandem with the expansion of financial services. Regression result has demonstrated a positive relationship between financial inclusion and mobile money and digital payments.

One important enabling factor that influences the uptake of Fintech along with financial inclusion is Internet penetration.

It is feasible to draw the conclusion that Fintech includes a significant part of making financial access more accessible and creating financial inclusion.

6. CONCLUSION

It is concluded that financial technology contributes to financial inclusion substantially and positively. This is due to the rise in the utilization of electronic financial services like mobile money and web payments. This has enhanced access to financial systems, particularly for unserved and underbanked people. It has further been demonstrated in the results that Fintech is not just advancing ways to obtain financial services while also improving efficient and clear services. Therefore, technological infrastructure and internet penetration should be crucial to the growth of Fintech and its application. It is also remarkable that even with the

successes in the growth of Fintech, there are still areas that need to be dealt with. These are access to credit and Internet literacy.

REFERENCES

1. Adeniran, I. A., et al. (2024). Global perspectives on Fintech: Empowering SMEs and women in emerging markets for financial inclusion. *International Journal of Frontline Research in Multidisciplinary Studies*, 3(2), 030–037. <https://doi.org/10.56355/ijfrms.2024.3.2.0027>
2. Agrawal, R. (2022). Role of Fintech companies in increasing financial inclusion. *Journal of Applied Management–Jidnyasa*, 14(1), 30–42.
3. Azmeh, C., et al. (2025). Financial globalization, poverty, and inequality in developing countries: The moderating role of Fintech and financial inclusion. *Research in Globalization*, 10, 100277. <https://doi.org/10.1016/j.resglo.2025.100277>
4. Begum, S., & Selvi, S. (2023). Impact of Fintech on India's Economic Growth. *Empirical Economics Letters*, 21(Special Issue 2), 1–8. (Corrected year from 2022 → 2023 as per in-text citation)
5. Ediagbonya, V., & Tioluwani, C. (2022). Financial technology and financial inclusion in developing and emerging markets: The Nigerian perspective. *Sustainability*, 14(19), 12386–12405. <https://doi.org/10.3390/su141912386>
6. Loo, M. K. L. (2019). Enhancing financial inclusion in ASEAN: Identifying the best growth markets for Fintech. *Journal of Risk and Financial Management*, 12(4), 181. <https://doi.org/10.3390/jrfm12040181>
7. Mashoene, M., et al. (2025). Fintech and financial inclusion in emerging and developing economies: A system GMM model. *Cogent Social Sciences*, 11(1), 2491701. <https://doi.org/10.1080/23311886.2025.2491701>
8. Nazir, M., et al. (2025). Bridging the Gap: Drivers of Fintech Innovation and Inclusion in Developing Economies through the Lens of the Technology Acceptance Model. (Accepted version)
9. Ozili, P. K., et al. (2024). Fintech and Financial Inclusion in Emerging Markets: A Bibliometric Analysis and Future Research Agenda. *International Journal of Emerging Markets*. <https://doi.org/10.1108/IJOEM-08-2024-1428>
10. Raj, B., & Upadhyay, V. (2020). Role of Fintech in Accelerating Financial Inclusion in India. *SSRN*.
11. Ramadhan, A., et al. (2025). Fintech and Financial Inclusion: Evidence from Emerging Markets. *Research Horizon*, 5(3), 599–612.
12. Sethi, D., et al. (2024). Fintech Development and Financial Inclusion: Evidence from Global Panel Data. *PLOS ONE*, 19(1), e0315174. <https://doi.org/10.1371/journal.pone.0315174>
13. Sharma, P., et al. (2023). Fintech and Financial Inclusion for Sustainable Development. *Sustainability*, 15(17), 13039. <https://doi.org/10.3390/su151713039>