



## Digital Infrastructure & Financial Technology (Fintech)

Princy

Research scholar, Dept. Of Economics, Baba Mastnath University, Rohtak (Haryana)

DOI : <https://doi.org/10.5281/zenodo.19542369>

### ARTICLE DETAILS

**Research Paper**

**Accepted:** 25-03-2026

**Published:** 10-04-2026

### Keywords:

*Artificial Intelligence,  
Cybersecurity, Digital  
Economy, Financial  
Innovation, UPI, Rural  
Connectivity, Economic  
Development, Cashless  
Economy, RegTech,  
Insurtech.*

### ABSTRACT

The fast pace of technological development in the area of digitalisation has created a tremendous revolution in the nature and operation of the economy of the contemporary world. One of the most important outcomes of the revolution in the area of digitalisation is the emergence of fintech, which has had a tremendous effect on the nature and operation of financial services in the contemporary world. However, the development and success of FinTech are entirely dependent on the availability of strong digital infrastructure in the economy. The term “digital infrastructure” can be defined as “the internet, mobile communication systems, digital identity systems, cloud computing systems, cybersecurity systems, payment systems, and regulatory systems in the economy.” This paper is based on the relationship between the development of FinTech and the availability of digital infrastructure from an economic perspective, which states that “the availability of strong digital infrastructure in the economy is the backbone of financial transformation in the digital world.” This paper aims to explore the role of digital infrastructure in reducing transactional costs, improving financial intermediation, promoting financial inclusion, and developing financial services in the economy. This paper aims to explore the digital journey in India about Aadhaar, Jan Dhan bank accounts, digital penetration with mobile connectivity, and the Unified Payment Interface, which has created what can be



termed “the most dynamic digital financial ecosystem in the world.” At the same time, it also aims to highlight the challenges in this space with regard to the digital divide, cyber threats, data privacy concerns, algorithmic biases, and better regulations. The paper contends that digital infrastructure must be recognized as an important economic asset as well as public developmental infrastructure. In this respect, therefore, for FinTech to become a source of inclusive and sustainable growth, there is a need for governments to ensure universal digital connectivity, better data governance, as well as improved consumer protection, alongside the need for developing proper financial technology regulations.

---

## **Introduction**

The current global economy is driven by the rapid growth in the spread of digital technology and its integration with all facets of the world of work and human life. In the last three decades or so, humanity has witnessed the advent of new technologies in the form of the Internet, smartphones, cloud technology, artificial intelligence, big data analytics, and platforms, which have revolutionized the manner in which humans communicate with one another, shop, create, and conduct trade. At the heart of this revolution lies the world of finance. The world of finance has undergone a revolution from its traditional form in the form of the traditional banking system, paperwork, physical checks, and cash transactions. The advent of digital technology and platforms has given birth to a new phenomenon in the form of Financial Technology or FinTech. FinTech is the new word used to refer to the world of finance and technology. FinTech is the use of tech innovations to enhance the speed, accessibility, affordability, and quality of financial services. FinTech services comprise digital payments, mobile wallets, app-based banking services, online lending services, peer-to-peer funding services, digital insurance services, robo-advisory services, platforms, and blockchain-based financial services. The arrival of FinTech is not a new trend of tech innovations; it is a new revolution in the world of finance.

The FinTech revolution does not take place in a vacuum. FinTech development happens because of the quality and depth of the digital infrastructure that supports it. Just as the roads, electricity, and telecom infrastructures formed the foundation of the industrial and post-industrial societies, the digital infrastructures that are currently available are the foundation of the digital economy that we have today.



Digital infrastructures comprise broadband/mobility infrastructures, digital devices, cloud infrastructures, data center infrastructures, cybersecurity infrastructures, digital identity infrastructures, real-time payment infrastructures, and the enabling legal and regulatory infrastructures. FinTech development without this digital infrastructure support is impossible. From an economic perspective, the relationship between digital infrastructure and FinTech is quite important. Digital infrastructure has the potential to decrease transactional costs, increase the market for financial services through the expansion of the number of people who can contribute to the market, decrease the cost of market entry for new players in the market, and improve information flows. Digital infrastructure has the potential to resolve the problems of market failure that have been there for a long time and achieve the objective of financial inclusion by taking financial services beyond the city and beyond the branches of financial institutions. Digital infrastructure has the potential to reach the people in the villages and those who are not formally employed.

Clearly, there is a lot to think about, a lot to ask, in relation to how money can be made to work for people, the market, and the rules. The question, therefore, is: does digital finance cut costs, simplify, and open new doors to new risks of cyber fraud, breaches of privacy, individuals being too indebted, biases, and power being in the hands of a handful of giant digital companies? The good in FinTech is not fixed in stone, but depends on how good or bad the foundation, governance, and sharing of the digital platform have been. In a world where not everyone has access to the internet, not everyone has the literacy skills needed in a digital economy, and not enough is being done in consumer protection, digital finance is only serving to widen, if not deepen, existing gaps.

What is noteworthy in the case of India is that it is a good example, positive or negative, of how to leverage digital infrastructure to bring about financial transformations, particularly on a large scale. Initiatives like Digital India, Jan Dhan Yojana, Aadhaar, and UPI have helped in building a robust digital infrastructure in the country, which is contributing to the growth of the country's FinTech industry. It is helping millions of people in the country to access bank accounts, receive direct benefits, and make instant payments. Additionally, India is a hard case in terms of how to get digital finance right or wrong, particularly in a country like India, which is so unequal, diverse, and populous.

This research paper aims to conduct extensive research into the relationship between the digital infrastructure and the FinTech sector. This research paper has tried to give definitions to the concepts of digital infrastructure and FinTech, as well as their significance for the economic system. Furthermore, the research paper has attempted to examine the potential and problems associated with



the relationship between the two concepts. The most significant point put forward by the research paper is that FinTech is based on digital infrastructure. Literature Review

Considerable efforts have been made by both researchers and policymakers regarding the fast-paced development of FinTech and its reliance on digital infrastructure. Different researchers have focused on examining various dimensions of the issue.

According to Lee & Shin (2018), FinTech is characterized as an ecosystem of FinTech firms, established financial institutions, tech companies, and regulators where innovation is the key element that drives financial change. Philippon (2016) discusses the possibilities for reducing the costs of financial intermediation as one of the benefits of the FinTech industry, which leads to improving financial service efficiency.

Furthermore, according to Vives (2019), one of the disruptive factors about digital technology is the way that it affects traditional banking operations, and more financial technology firms lead to increased competition, which can enhance the efficiency of financial services as well as pose regulatory challenges. Gomber et al. (2017) present an elaborate discussion on the subject of digital finance and the effect of innovative financial technologies in transforming financial markets through automation and analytics.

As highlighted by Ozili (2018), digital finance holds great importance in ensuring financial inclusion and stability in developing nations. From the above literature, it can be seen that mobile banking and other forms of digital payments hold significant relevance in improving financial inclusion.

The most recent literature on this subject includes Weber et al. (2024). In their study, the authors emphasize the growing role of artificial intelligence in financial decisions and the issue of lack of transparency at the same time. The other recently published literature on this subject matter is from Sampat et al. (2024). These authors have focused on the darker side of FinTech, i.e., data privacy issues, frauds, and over-indebtedness.

Considering Indian literature in this regard, various publications by the Reserve Bank of India, NITI Aayog, and World Bank are available on the importance of digital infrastructure such as Aadhaar, Jan Dhan Yojana, and UPI to improve financial inclusion in India.



Thus, from this literature review, it is clear that there are numerous benefits of FinTech but these cannot be realized without adequate digital infrastructure. Research Gap

While previous studies have covered topics related to FinTech, digital payment systems, and financial inclusion, very little research has been done on the economic foundation of FinTech development. Most studies have focused on FinTech services and innovations, with little emphasis on the role of digital infrastructure in FinTech development. While digital infrastructure includes connectivity, digital identity, payment systems, data infrastructure, cybersecurity, and regulation, very little research has been done on the economic foundation of FinTech development. While Aadhaar, Jan Dhan, and UPI have been successful in the Indian economy, very little research has been done on the economic foundation of FinTech development. Therefore, this study bridges the gap in knowledge on the economic foundation of FinTech development, with special reference to the Indian economy, while also considering the digital divide, data privacy, and cybersecurity.

### **Objectives of the Study**

The objectives to be achieved in the current study are as follows:

1. To understand the concept and components of digital infrastructure in the modern economy.
2. To understand the concept, meaning, and scope of Financial Technology (FinTech).
3. To analyze the relationship between digital infrastructure and the development of Financial Technology.
4. To analyze the relationship between digital infrastructure and the development of Financial Technology.
5. To analyze the relationship between digital infrastructure and the development of Financial Technology.
6. To analyze the role of Financial Technology in reducing transactional costs and increasing financial efficiency.
7. To analyze the contribution of Financial Technology in increasing financial inclusion, particularly in the context of developing economies like India.



8. To study the major sectors of Financial Technology, namely, digital payments, digital lending, InsurTech, and WealthTech.
9. To analyze the digital public infrastructure in India, namely, the JAM Trinity and UPI, as a case study of Financial Technology.
10. To analyze the major challenges faced in the context of Financial Technology, namely, digital divide, cybersecurity risks, and data privacy. Research Methodology

The approach of the paper is descriptive-analytical. It is fundamentally qualitative in nature, and it relies on secondary research. The sources are from a variety of academic books, research articles, government publications, RBI publications, Digital India policy documents, and international sources from the World Bank, the IMF, BIS, OECD, among others. The paper also draws from ideas in development economics, financial economics, digital economics, and public policy. The method is more interpretative and explanatory. It is not about empirical modeling; it is about a coherent conceptual and economic understanding of the impact of digital infrastructure on FinTech and vice versa. The experience of India is offered as a particular case of the impact of digital public infrastructure on the development of digital financial systems.

### **Digital Infrastructure: Concept and Economic Meaning**

The role of digital infrastructure can be seen as the base on which our communication, information sharing, trades, and service delivery take place in today's economy. This can be likened to the role that our physical infrastructure plays in today's economy. Just as physical infrastructure plays a crucial role in supporting our economic production and trade, the role of digital infrastructure in supporting information sharing, trades, online commerce, and financial exchanges cannot be overstated. The role of digital infrastructure in today's economy can be seen as not only being an amenity but also being an engine of economic growth, which in itself reduces transaction costs, increases the benefits of coordination, expands the market, and provides new economic organizations.

A digital infrastructure is a collection of interconnected parts, starting with connectivity, including broadband, mobile data, fiber, wireless towers, and satellite connectivity. This is followed by device infrastructure, including smartphones, tablets, personal computers, point of sale, QR scanners, and biometric devices, which are the tools used in accessing digital financial services. Then there are data infrastructures, including the cloud, servers, data centers, APIs, and analytics, which are the backbone



of financial services. The next component of the digital infrastructure is the digital identity component, which enables authentication services, including the use of identity verification systems such as biometrics or documents, which are used in the process of remote account opening as well as e-KYC services. The payment component is equally important, including real-time payment systems, payment clearing systems, payment gateways, as well as transaction systems, which are used in the process of facilitating payments in the digital space. Finally, there are the regulatory and cybersecurity components, which are equally important in the creation of the digital financial services space, as trust, legality, consumer protection, and data security are integral components in the creation of the digital financial services space.

If you were to view the digital infrastructure from the perspective of development, you would realize that the benefits of the digital infrastructure are systemic, with spillover effects, as they benefit multiple sectors of the economy. For instance, a strong digital payment infrastructure benefits financial service providers as well as small merchants, welfare programs, tax authorities, as well as e-commerce sites and consumers, while a national digital identity framework benefits financial service providers as well as the public sector in terms of reduced costs as well as increased access.

**Table 1: Components of Digital Infrastructure and Their Role in FinTech**

COMPONENT	DESCRIPTION	ROLE IN FINTECH
Connectivity infrastructure	Internet, broadband, mobile networks	Enables digital transactions
Digital devices	Smartphones, computers, POS machines	User access to financial services
Digital identity	Aadhar, e-KYC	Authentication and verification
Payment systems	UPI, payment gateways	Real-time payments
Data infrastructure	Cloud servers, analytics	Credit scoring and data processing
Cybersecurity systems	Encryption, firewalls	Protection against fraud



Regulatory framework	RBI rules, policies	Trust and legal security
----------------------	---------------------	--------------------------

**FinTech: Meaning, Nature, and Evolution**

FinTech, which is short for Financial Technology, is essentially about using digital technology and smart tech innovations to shape, provide, and improve financial products and services. It encompasses a broad range of activities aimed at making finance faster, more accessible, more affordable, and more user-friendly. This includes digital payments, mobile banking, online lending, peer-to-peer lending, crowdfunding, digital insurance, online investment, robo-advisory, regtech, and blockchain finance, among others. Essentially, FinTech is about re-mixing traditional finance, moving from traditional manual, paper-based, and brick-and-mortar finance towards digital, automated, and data-driven finance. FinTech's emergence is a story of waves. First, there were technology innovations in finance, characterized by ATMs, electronic cards, computerized bank records, and other technology-driven innovations aimed at increasing efficiencies. These were largely under the umbrella of traditional banks. The emergence of the internet expanded the financial technology landscape. This was characterized by online banking, e-commerce payments, and other forms of financial access from anywhere. The emergence of mobile internet, mobile wallets, online insurance, online investing, and other platform economies is the latest wave. Today, we are seeing a new wave of financial technology, characterized by innovations in artificial intelligence, open banking, embedded finance, blockchain, and experiments with central bank digital currencies.

This is important because it has economic implications, especially since FinTech alters the manner of conducting financial intermediation. Financial intermediation has traditionally been conducted through financial intermediaries, which gather information, identify people, process paperwork, manage risks, and finally, conduct transactions. This process has traditionally been costly, which has left out people who are far away or have low financial status. On the other hand, FinTech has the potential to lower the cost, especially if people have low balances.

**The Relationship between Digital Infrastructure and FinTech**

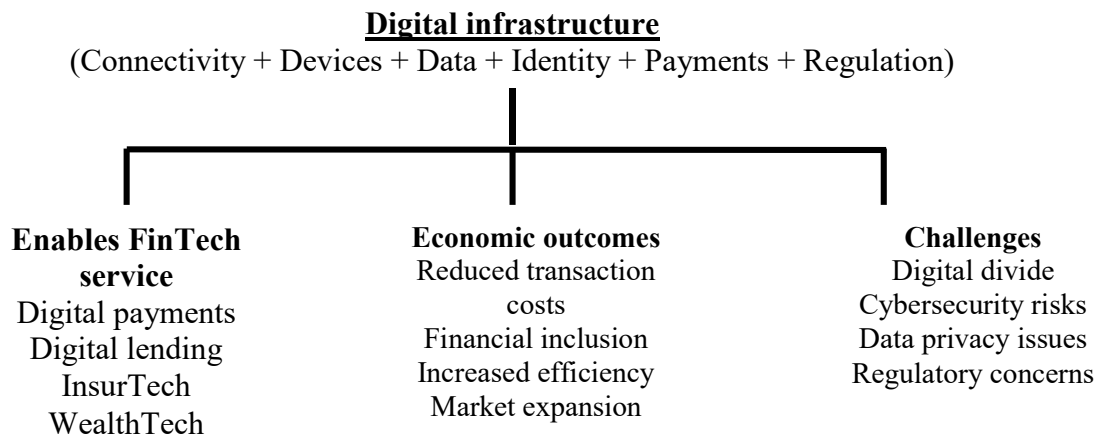
The relationship between digital infrastructure and FinTech is a deep one. In other words, FinTech cannot develop or, for that matter, exist without digital infrastructure. In fact, every FinTech service, whether it is a mobile payments service, a digital lending service, a digital bank, or an investment service, depends on digital connectivity, access to digital devices, digital identity, data security, and a digital payments system. Without any of these, digital financial services become unreliable,



inaccessible, or unsafe. For example, a mobile payments app requires users to have access to a mobile phone, mobile internet connectivity, and access to a payment network that can settle payments in real-time. Similarly, a digital lending platform requires access to digital connectivity, digital devices, a digital identity system, a data system, and legal frameworks that govern contracts. Insurtech platforms, for example, also depend on digital document flows, digital claims, and reliable digital authentication. Digital infrastructure, therefore, is the foundation upon which all FinTech innovation is built.

At the same time, FinTech increases the return on digital infrastructure. The more people there are making payments digitally, the greater the incentive to invest in the quality and accessibility of the network. The greater the number of small businesses that accept QR payments, the greater the return on interoperability. The more welfare payments are sent digitally, the greater the case for investing in identity and payments infrastructure. And that completes the circle: digital infrastructure fuels FinTech, and FinTech fuels returns on digital infrastructure.

Another factor to consider is network effects. Generally speaking, FinTech platforms are more valuable as they grow to serve more people or organizations. A payment system is more valuable as it grows to serve more merchants and people. A digital identity system is more valuable as it grows to serve more service providers. An open finance system is more valuable as it grows to serve more organizations with secure data sharing. Digital infrastructure fuels network effects by making it easier to serve more people or organizations.





**“The relationship between digital infrastructure and FinTech can be better understood through the following conceptual framework:”**

### **Flowchart 1: Digital Infrastructure and FinTech Ecosystem**

**“The above framework clearly shows that digital infrastructure acts as the backbone of FinTech development and its economic outcomes.”**

#### **Economic Significance of FinTech**

From an economic point of view, the most impressive achievement of FinTech is that it reduces transactional costs. Currently, the finance industry involves a lot of paperwork, visiting the bank, identification processes, waiting, handholding, etc. All these factors add to the transactional cost of doing business, and it becomes difficult for the bank to cater to the needs of people who are either small customers or who live in the countryside. FinTech’s achievement here is that it reduces transactional costs by making the process more efficient, allowing people to access the services of the bank remotely, and allowing real-time transactions. This is where FinTech actually adds value.

Another contribution of FinTech, from an economic point of view, is its ability to reduce information gaps. In finance, there is always a problem where those asking for credit have more information about their ability to repay loans than those providing credit. This leads to adverse selection, where those with informal incomes face difficulties accessing credit. FinTech uses alternative data, such as transaction data, merchant data, utility payments, and other alternative data, to gauge risk. While there is concern about this, FinTech is able to reduce information gaps, providing credit to those individuals and firms that were previously excluded.

It also increases competition in the financial sector. Banks have a high level of concentration and branching, making it difficult for new entrants. FinTech is breaking ground for new entrants in key segments such as payments, lending, insurance, and investment. This is likely to pose another threat to traditional financial institutions. This is also an advantage to the economy because it reduces monopoly power in financial intermediation.

The most discussed advantage is financial inclusion. Millions of people in developing countries are not included in the financial system. This is due to geographical challenges or low incomes. Some people also lack documentation or face institutional challenges in accessing financial services. This is where



FinTech comes in. It has the ability to reach this population through mobile technology as well as digital identity initiatives. This ensures financial inclusion since they are able to save as well as have access to insurance and loans. This allows them to maintain a constant standard of living.

FinTech also ensures a high level of formalization within the economy. This is because financial transactions have a paper trail. This allows small businesses to establish credit histories as well as gain access to financial services. This ensures that they are visible to the state. This increases the ability of the state to mobilize resources as well as promotes the formalization of businesses from the informal sector.

### **Major Areas of FinTech and Their Economic Impact**

Of all the innovations that FinTech has brought to the market, digital payments seem to be the most obvious. This includes mobile wallets, QR code payments, bank transfers, and real-time payment systems. Digital payments have completely changed the way we buy things and the way we sell our products. The advantages of digital payments are that they eliminate cash usage, transaction costs are reduced, payment settlement is fast, they are easy to use, and they are more traceable. For small businesses, they offer a transaction record that may be useful for accessing credit in the future. For governments, they offer transparency that may be useful for taxation purposes and for direct transfers.

The other area of FinTech is digital lending. This includes the use of app-based platforms for offering loans. Digital lenders use alternative credit scoring models for providing loans. This can provide better working capital for micro and small enterprises. Digital lending can also provide emergency loans for households. However, the benefits of digital lending depend on proper regulations. If digital lending is not properly regulated, it can lead to predatory lending, high interest rates, and debt traps.

Neobanks and app-based digital banking services signal a change from traditional banking. This is because technology-driven banking accounts provide a range of banking products, including account management, payments, savings, and credit facilities, in a user-friendly manner. The benefits of neobanks and digital banking include reduced operating expenses for banks and greater access to financial services, particularly for the youth. Insurtech is another area of FinTech, which includes the use of technology for providing better insurance products. This includes the use of technology for providing better distribution and claims processing. This can provide better access to insurance for people experiencing poverty through micro-insurance products. This is important for economic development. This is because better access to financial products, including insurance, can provide



better economic resilience for households. This includes better resilience against economic shocks, which may arise from health problems, crop failures, accidents, and natural calamities.

Wealthtech and digital investment platforms provide better access to financial products, particularly for the average citizen. This includes the use of technology to provide better access to capital markets for people. This is important for economic development. This is because better access to financial products can provide better economic resilience for people.

### **Digital Public Infrastructure and the Indian Experience**

India is a standout example of the potential of digital infrastructure as an enabler of FinTech-driven financial transformation. Over the last decade, India has developed a wide digital public infrastructure that brings together identity, banking, and payments in a manner that is relevant for the entire world. The JAM Trinity of Jan Dhan, Aadhaar, and Mobile is often at the epicenter of attention. Jan Dhan Yojana brought bank accounts within reach of millions of people who did not previously have access. Aadhaar created a massive digital identity infrastructure for authentication and eKYC. Mobile connectivity enabled access to digital financial services from anywhere. The Unified Payments Interface (UPI) is another digital infrastructure that has been a game-changer for India. UPI allows for bank-to-bank transfers directly, allowing millions of merchants from street vendors to micro-enterprises to accept digital payments. The economic impact of UPI is substantial, with lower payment costs, faster payment speeds, a boost to e-commerce, and an expansion of the digital footprint of households and businesses. However, India's digital public infrastructure is also an example of the use of digital infrastructure for public welfare by providing for direct benefit transfers. This is an important reminder that digital infrastructure is for more than just supporting innovation; it is also for supporting public governance and financial management. India's digital public infrastructure is also an example of the importance of complementary factors. For digital finance, digital literacy, grievance redress, fraud awareness, and other complementary factors are as important as technology. FinTech and Financial Inclusion

Financial inclusion is arguably an important aspect of the impact of FinTech in the context of development. Traditionally, people have been excluded due to inadequate banking branches, low income levels, difficulties in securing collateral, paperwork, gender discrimination, and inaccessibility in remote or rural areas. Nevertheless, financial technology has helped break these challenges through



cost reduction and the use of mobile technology. Mobile money transfer, digital identity, and digital payments have helped break the barriers for previously unreachable people.

It is also important to note that there is a difference between financial access and financial inclusion. Access is simply the ability to use financial services through digital means. However, financial inclusion is the actual utilization of financial services in solving problems and gaining power through financial literacy and the ability to leverage a broad array of financial products beyond payment platforms.

Financial inclusion for women is arguably an important aspect in the context of financial technology. Financial technology is helping women increase their financial inclusion through the ability to own personal financial accounts, savings options, and microcredit facilities. However, women face digital exclusion due to low smartphone ownership rates and digital literacy levels. Additionally, there is also discrimination in the control of digital devices in society. Thus, financial technology's ability to increase financial inclusion is also subject to broader equality in society.

### **Challenges and Risks**

However, it is important to point out that there are certain risks associated with FinTech, which cannot be ignored, notwithstanding the advantages it offers to the economy. One of the main risks associated with FinTech is the digital divide. This is a challenge that can arise if there is an uneven distribution of access to the internet, devices, and knowledge of how to use technology effectively.

Another challenge associated with FinTech is security risks. When financial transactions are conducted digitally, there is a high probability of cyber attacks such as phishing, hacking, identity theft, account takeover, financial application fraud, and payment system fraud. This is a threat to the entire financial system if a major cyber attack were to occur. Another challenge associated with FinTech is data privacy risks. This is because FinTech firms are able to collect a lot of personal information regarding their customers. This information has a high probability of being abused if it ends up in the wrong hands. This will eventually lead to a breach of trust, which is critical in financial markets. This is because, with constant cases of digital fraud, there will be a lot of social ills.

Another challenge that is associated with FinTech is algorithmic bias risks. This risk has a high probability of occurring when there is a lack of regulation in digital lending. This will eventually lead



to a high probability of over-indebtedness and exploitation of vulnerable groups in society who are not aware of the cost of instant credit.

Lastly, there is a concern that there is a high probability that a few players will monopolize financial markets. This is because, at first, financial technology will start as a disruptor, but eventually, it will be a consolidated industry with a few players. This will eventually lead to a high probability that financial institutions will gain too much control, which will limit competition.

### **Policy Implications and the Way Forward**

However, in order for FinTech to contribute to economic outcomes, policymakers need to prioritize digital infrastructure as a developmental need in society. In addition to that, internet connectivity is a necessity in order for digital financial services to be universally accessible and affordable. This is particularly important to those living in remote and underserved communities. Devices are also important in digital financial services. In order to access digital financial services, one needs to own a digital device.

Digital infrastructure in society needs to be based on interoperability, openness, inclusiveness, and accountability. In payment systems, for instance, interoperability is important in order to avoid lock-in effects. In digital identity systems, security, rights, and grievance resolution are important. Data sharing in platforms such as open banking and account aggregation needs to be based on informed consent, purpose limitation, and user control.

Consumer protection should always be at the heart of any FinTech strategy. This includes having clear disclosure rules, reasonable pricing, transparent fraud liability rules, and complaint resolution. The government should crack down on predatory lending practices, digital interface deception, and illegal data usage. However, the government should also avoid being overly prescriptive in its regulations. This is because they may end up stifling the sector. Digital and financial literacy is also very important to the success of digital financial services. The success of digital financial services is not only about availability; it is also about ability.

### **Conclusion**

Digital infrastructure and FinTech are seen to be emerging as the major driving forces in the formation of the new shape of the economy. The transition from old-school, branch-based, and paper-based



financial services to a new world of digital, mobile, and platform-based finance has enabled levels of efficiency, accessibility, and innovation. This paper asserts that the emergence of FinTech is dependent upon the development of digital infrastructure. The connectivity infrastructure, devices, digital identity, cloud services, interoperable payment services, cybersecurity, and regulation are part of digital infrastructure and FinTech.

If one were to look at the economy, FinTech is a phenomenon with enormous benefits, which include reducing the cost of transactions, making financial intermediation more efficient, intensifying financial competition, correcting information asymmetry, encouraging entrepreneurialism, and promoting financial inclusion. The case of FinTech is particularly relevant in the context of the developing world, where the cost of establishing new branches of financial services is extremely high. The case of India is a good example of the potential of the public digital infrastructure to spark a new wave of financial transformation.

However, the paper also points to the fact that FinTech is not a fair and risk-free phenomenon. Digital inequality, cybersecurity risks, data and algorithmic bias, and concentration are some of the major challenges to FinTech. The potential of FinTech is not only in innovation but also in regulation, trust, and financial inclusion. The potential of digital finance can be understood not in terms of the number of downloads and transactions but in its impact on the economy and its ability to allow people to really take charge of their finances. Therefore, it is important to understand the concept of digital infrastructure as a strategic asset of the economy and a new form of public infrastructure for development. The future of finance is in the hands of the ability of the public sector to develop the infrastructure of the digital world. The potential of digital infrastructure and FinTech is huge, and it is expected to play a major role in the financial democratization of the world in the new age of the digital economy.

### References:

- Alt, Rainer, Roman Beck, and Martin T. Smits. "FinTech and the transformation of the financial industry." *Electronic markets* 28.3 (2018): 235-243.
- Jayalath, J. A. R. C., and S. C. Premaratne. "Analysis of key digital technology infrastructure and cyber security consideration factors for fintech companies." *International Journal of Research Publications* 84.1 (2021): 128-135.



- Ansari, Iqbal, et al. "Fintech innovation and IT infrastructure: Business implications for financial inclusion and digital payment systems." *Emerging Frontiers Library for The American Journal of Engineering and Technology* 7.09 (2025): 49-73.
- Fraihat, Baha Aldeen Mohammad, and Mohammad Abdel Mohsen Al-Afeef. "The moderating effect of financial technology (Fintech) innovation between knowledge management infrastructure and institutions performance." *World Wide Journal of Multidisciplinary Research and Development* 8.1 (2022): 91-95.
- Gomber, Peter, Jan A. Koch, and Michael Siering. "Digital Finance and FinTech: Current Research and Future Research Directions." *Journal of Business Economics* 87, no. 5 (2017): 537–580.
- Thakor, Anjan V. "Fintech and Banking: What Do We Know?" *Journal of Financial Intermediation* 41 (2020): 100833.
- Pantelieieva, Natalia, et al. "FinTech, transformation of financial intermediation and financial stability." *2018 International Scientific-Practical Conference Problems of Infocommunications. Science and Technology (PIC S&T)*. IEEE, 2018.
- Rabbani, Mustafa Raza, Shah Nawaz Khan, and Eleftherios I. Thalassinos. "FinTech, blockchain and Islamic finance: An extensive literature review." (2020).
- Weber, Patrick, K. Valerie Carl, and Oliver Hinz. "Applications of Explainable Artificial Intelligence in Finance—a systematic review of Finance, Information Systems, and Computer Science literature: P. Weber et al." *Management Review Quarterly* 74.2 (2024): 867-907.
- Sampat, Brinda, Emmanuel Mogaji, and Nguyen Phong Nguyen. "The dark side of FinTech in financial services: a qualitative inquiry into FinTech developers' perspective." *International Journal of Bank Marketing* 42.1 (2024): 38-65.
- Anifa, Mansurali, et al. "Fintech innovations in the financial service industry." *Journal of risk and financial management* 15.7 (2022): 287. Al Suwaidi, Reem Ahmed, and Charilaos Mertzanis. "Financial literacy and FinTech market growth around the world." *International Review of Financial Analysis* 95 (2024): 103481.
- Reserve Bank of India. *Annual Reports on Payment and Settlement Systems*.
- Government of India. *Digital India Programme Reports*.
- NITI Aayog. *Reports on Digital Public Infrastructure and Innovation*.
- World Bank. *Global Findex Database Reports*.
- International Monetary Fund. *FinTech Notes and Digital Finance Studies*.



- OECD. *Annual Economic Reports on Financial Innovation*.
- *Digital Economy Outlook*. Demirgüç-Kunt, Asli, et al. *The Global Findex Database*. Arner, Douglas W., Barberis, Janos, and Buckley, Ross P. “The Evolution of FinTech.”
- Philippon, Thomas. *The Economics of Financial Intermediation and Digital Finance*.