

## **FINANCIAL INCLUSION THROUGH DIGITAL FINANCE: PROSPECTS AND OBSTACLES IN EMERGING MARKETS**

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### **ABSTRACT**

This research explores how digital banking can transform economic inclusion, particularly for marginalized groups in developing nations. Economic inclusion, defined as the accessibility and equity of opportunities for acquiring financial services, is one of the key drivers in combating economic power and poverty. The rise of digital technologies like mobile banking, e-wallets, peer-to-peer lending platforms, and blockchain has significantly increased access to traditional financial services, especially for rural areas and populations that have been previously excluded from the formal economy. In Uttar Pradesh, India, a structured questionnaire was administered to 240 participants as part of the quantitative aspect of the research. The study utilized partial least squares structural equation modelling (PLS-SEM) to analyze the gathered data and explore the relationships among critical factors such as technological infrastructure, social and cultural influences, economic results, and the efficacy of digital financial initiatives. Findings indicate a statistically significant correlation between these elements and the impact of digital financing, highlighting the importance of improved digital infrastructure and culturally appropriate financial services in enhancing economic inclusion outcomes.

**Keywords:** Financial Inclusion, Digital Finance, Digital payment, Government policy.

### **1. INTRODUCTION**

The goal of financial inclusion is to ensure that underserved groups, including low-income individuals and marginalized communities, can access crucial financial products and credit services without encountering excessive costs. Digital finance serves as an all-encompassing

term for a variety of services, such as peer-to-peer lending, digital wallets, mobile banking blockchain, and more which collectively promote financial inclusion.

To stimulate economic growth and reduce poverty globally, it is essential to place a greater emphasis on financial inclusion; this is why these services have been designed to be more affordable and easily accessible, thus eliminating the barriers that have historically prevented many people from engaging with formal financial systems. This necessity underscores the increasing importance of advancements in digital finance. Digital money has surfaced as a crucial tool in this initiative. Digital finance includes a range of financial products such as virtual wallets and peer-to-peer lending aimed at providing comprehensive and accessible financial solutions.

A network of retail agents plays a vital role in digital finance, enabling the elimination of traditional intermediaries. These agents are tasked with two interrelated functions: “cash-in,” which involves converting cash into electronically stored value, and “cash-out,” which is the reverse process. They enhance transaction efficiency by connecting customers to the communication infrastructure via digital devices, thereby reaching more people and increasing the effectiveness of financial services.

The implementation of digital finance varies significantly depending on the social contexts in which it occurs. This paper will analyze the different benefits and drawbacks of digital finance while identifying best practices for utilizing these services to foster equitable development. The effectiveness of these applications in various environments can be explored through a series of case studies that researchers will conduct to assess the necessary conditions for deploying digital finance to achieve effective economic growth in a community. Retail agents play a vital role in the digital money ecosystem. They facilitate transactions that allow clients to convert cash into electronically stored value (cash in) and later convert that stored value back into cash (cash out), thus enhancing financial inclusion. This approach enables individuals without traditional bank accounts to engage in financial transactions.

This holds true for many regions that do not have access to conventional banking services, and it is particularly crucial in such areas. Through digital finance, individuals, businesses, and even marginalized groups facing challenges can alleviate their poverty by becoming more productive and contributing to economic development. The transformative capability of digital finance is rooted in its ability to provide essential financial tools and services to individuals from various economic backgrounds, regardless of their financial conditions. Research is conducted on the effects of digital finance across diverse social and economic settings. The objective of the project is to evaluate how effectively digital finance can promote fair growth by examining both its advantages and disadvantages in different social and economic contexts. Additionally, the goal is to tailor digital financial solutions to meet the specific needs of various communities. One of the key advantages of digital finance is its capacity to lower transaction costs and enhance the convenience of financial services. For example, mobile banking and digital wallets remove the necessity for physical bank locations, allowing users to carry out transactions from their homes or offices using a mobile phone. This feature is especially advantageous in rural and distant areas where access to traditional banking facilities is scarce. Furthermore, digital financial platforms generally impose lower fees compared to traditional banking institutions, increasing the accessibility of these services for individuals with limited financial means.

## 2. SIGNIFICANCE OF THE STUDY

**2.1 Empirical Evidence for Policy Formulation:** By employing PLS-SEM methodology, this research will deliver solid quantitative evidence. It will aid policymakers and relevant

government officials in crafting more effective policies for digital financial inclusion, grounded in statistical correlations among social factors, economic results, and technological infrastructure.

**2.2 Strategic Framework for Financial Institutions:** The study aims to uncover insights regarding the most influential elements, particularly social and cultural factors along with technological infrastructure. Financial institutions and fintech companies can give priority to these elements when designing digital financial products and services for underrepresented populations.

**2.3 Addressing the Challenge of the Digital Divide:** This research will advance the understanding of how issues like mobile network quality, digital literacy, and barriers to internet access can be systematically resolved, providing a strategy to close the digital gap that hinders marginalized communities from utilizing traditional financial services.

**2.4 Guidelines for Cultural Adaptation of Digital Finance:** The research will emphasize the essential role of social and cultural components in the adoption of digital finance. It will provide meaningful insights for creating culturally sensitive financial products that resonate with traditional values and social norms, especially crucial for emerging markets, such as India.

**2.5 Measurable Impact Assessment Tool:** This study will develop several measurement scales and validated constructs that can be utilized by future researchers, development organizations, and international agencies to assess the effectiveness of digital financial inclusion initiatives. This will facilitate evidence-based evaluations of program success and informed decisions regarding resource allocation.

### 3. LITERATURE REVIEW

**3.1 Creativity and Trust as Factors Influencing M-Banking Adoption:** Research conducted by Dr. Bindiya Tater and Dr. Kishor John (2023) indicates that innovation which encompasses elements such as user feedback systems, communication strategies, privacy safeguards, security protocols, operational reliability, transparency, and user trust is a crucial determinant in the acceptance and utilization of mobile banking services. All financial services, including mobile banking offerings, are delivered via a digital banking platform. To fulfill the needs and expectations of customers, banks must ensure that their services consistently yield the desired results. Banking institutions should adopt more innovative approaches in their mobile banking applications, including user responses, dialogue, usability, reliability, transparency, and trust in privacy and security. When customers have confidence in their financial institutions and believe that their personal information is protected, they are more likely to adopt and utilize mobile banking systems. The integration of banking 4.0 technology has radically transformed how banking operations and services are conducted and delivered within mobile banking. Every Indian bank, both public and private, has integrated banking 4.0 applications. This cross-sectional study employed a systematic online survey approach to explore various topics, including innovation levels, responsiveness, communication effectiveness, security measures, privacy protections, accessibility features, reliability standards, and trust factors among users of mobile banking platforms such as YONO and Mobile Pay.

**3.2 Government Policy and Digital Payment Adoption in India:** M. Balaji and Krishnan A. (2023) examined the Indian government's demonetisation initiative, which significantly boosted the adoption of digital currency. This policy, coupled with initiatives like Digital India, has facilitated rapid and exponential growth in digital payment usage. One of the primary advantages of transitioning to digital payments in India is the enhanced transparency at the transaction level. Digital financial transfers provide an "open and accountable" monetary

system, thus reducing the prevalence of shadow money and tax evasion. While this transparency can contribute to stimulating the national economy by fostering trust and security in financial transactions, it also motivates a larger segment of the population to engage with the formal financial system. The study's findings further highlight that various contextual elements, such as the security, validity, and genuine experience associated with the use of digital payment tools, are indeed the most critical factors in their adoption.

**3.3 Digital Finance and Entrepreneurial Success in China:** The study conducted by Shijun Chai, Li Zhou, and Yan Chen in 2023 examined the relationship between the business returns of Chinese enterprises and their accessibility to digital financial services, utilizing three waves of data from the China Household Finance Survey (CHFS) covering the years 2015 to 2019. The findings indicate that higher levels of digital finance significantly enhance the returns for entrepreneurial households in more affluent provinces. The study successfully met various external robustness checks supported by an efficient online banking system, reinforcing the validity of the results.

**3.4 The Role of Financial Inclusion and Perceived Ease of Use:** Kajol et al. (2022) argue that financial inclusion is about ensuring that affordable financial services and suitable credit are available to underprivileged groups, especially those from economically disadvantaged backgrounds. Perceived ease of use is another vital component of the Technology Acceptance Model (TAM). It refers to the extent to which a user believes that using the DFT system will require little effort, leading to a higher likelihood of adoption if the system is user-friendly. This concept reflects how well DFT matches the user's values, needs, and previous experiences. The uptake of technologies that align closely with users' economic situations and lifestyle choices is on the rise.

**3.5 Organisational Change in Transition to Digital Banking:** Simran Kaur, Liaquat Ali, and M. Kabir Hassan (2021) explored through their qualitative study how initiatives are being enacted across various bank branches and how this transition supports Indian consumers moving from traditional banking to online banking. This transition is essential due to the numerous benefits of digital banking, including cost savings, speed, and convenience. To investigate these issues, the researchers engaged in in-depth and one-on-one interviews with senior banking executives from both state-owned and private Indian financial institutions. The data collected from these discussions was subsequently analyzed using systematic review and interpretation techniques that prioritized identifying significant themes and patterns. A methodological approach involving coding and categorizing the data led to the emergence of four primary themes from the interview responses: customer-centric initiatives, digital branches, and defining the responsibilities of new branch personnel. The study highlights the necessity for banks to undergo synchronized cultural and organizational changes to successfully implement digital banking systems. Enhancing technological infrastructure and ensuring alignment across all organizational levels with the digital transformation strategy is critical.

**3.6 FinTech and Inclusive Finance in China:** Hasan et al. (2020) discovered that financial technology, often referred to as FinTech, acts as a significant driver for enhancing financial inclusion. This sector seeks to democratize access to financial services for various populations, particularly for marginalized and low-income groups. The swift growth of FinTech is transforming the operations of financial markets by making financial services more effective, affordable, and accessible to users. This qualitative study focuses on the current state of FinTech in China, highlighting its role in promoting inclusive finance and addressing deficiencies in the country's key sectors. FinTech offers a wide range of services that are easily

obtainable, particularly in remote rural areas, leading to reduced transaction costs and expanded financial opportunities. China's utilization of online finance is particularly noteworthy, with the rise of technology-driven digital payment systems significantly enhancing financial services such as peer-to-peer lending.

**3.7 Challenges of Digital Payments in Nepal:** Research conducted by Giri and Ghimire (2020) indicates that processing payments in Nepal is often a frustrating endeavor for many individuals. Whether purchasing everyday items or settling bills for services, people frequently find themselves waiting in lengthy queues or traveling considerable distances to complete even the simplest transactions. This results in significant inefficiencies that consume precious time and energy. These payment challenges not only inconvenience for individuals but also generate ripple effects across the entire economy. Businesses encounter difficulties in operating efficiently when basic transactions are so cumbersome, ultimately hindering economic growth. Individuals face genuine obstacles when trying to pay utility bills, buy goods and services, or transfer money to relatives. The situation has become so dire that numerous utility providers are grappling with sizable unpaid debts while businesses struggle with the disruptions caused by these payment issues. What is particularly notable is that Nepal has access to contemporary payment technologies. While credit cards, ATMs, internet banking, mobile payment applications, and various other digital tools are available, the country has yet to fully adopt these solutions. Despite possessing the necessary technological infrastructure, the widespread acceptance of digital payment systems remains limited, leaving many Nepalis reliant on outdated and inefficient payment methods.

**3.8 Factors Influencing Mobile Banking Adoption in India:** Pooja Jain and Gaurav Aggarwal (2019) explored the elements that impact consumer adoption and use of mobile banking services. Their research identified four main factors from existing studies that can influence mobile banking use, including perceived usefulness. A five-point rating scale was utilized in the study to evaluate participants' opinions on these factors, focusing on their comfort with financial costs and their degree of trust. This research adopts a systematic and quantitative method to gauge the attitudes and opinions of respondents. Data collection was primarily conducted through the distribution of self-administered questionnaires to individuals in the Gwalior area of Madhya Pradesh.

**3.9 Evaluating Financial Inclusion as an Indicator of Social Advancement:** In their 2019 research, Shivangi Bhatia and Seema Singh investigate the role of financial inclusion as an important indicator for assessing social development and community well-being around the world. Ensuring that financial services are both accessible and affordable for everyone has become a significant policy goal in numerous nations. The G20 countries, including India, acknowledge financial inclusion as a vital component for fostering gender equality and achieving sustainable development objectives.

**3.10 Digital Finance as a Fundamental Element of Financial Inclusion:** Financial inclusion acts as a safeguard by offering underserved populations, especially those with limited incomes, affordable access to financial services and appropriate lending options. Access to services such as bank accounts, insurance, remittances, payouts, and financial counseling allows people to plan for future security, establish a stable base of savings, and take advantage of new opportunities.

## 4. RESEARCH OBJECTIVES

**4.1.** To gain insight into how digital financial tools and platforms are assisting individuals, particularly in remote or underserved regions, to gain easier access to vital financial services such as banking, payments, and credit.

- 4.2. To assess the efficiency of financial inclusion initiatives by measuring their success in enhancing access to financial services among marginalized communities.
- 4.3. To investigate the economic ramifications of digital finance by scrutinizing its effect on economic growth, business advancement, and poverty alleviation.
- 4.4. To examine how individuals' beliefs, cultural practices, and social contexts affect their readiness to adopt and consistently utilize digital financial services.
- 4.5. To analyze the significance of technological infrastructure in facilitating digital finance, and evaluate the accessibility and quality of internet connectivity.

## 5. RESEARCH METHODOLOGY

### 5.1. Research Design

#### 5.1.1 Descriptive Research

Descriptive research is a methodical approach used to accurately depict a population, situation, or event. It primarily addresses “what” questions, such as what occurs, who is involved, where it takes place, and how frequently it happens. Unlike experimental research that alters variables, descriptive research examines naturally occurring experiments or conditions. This method is frequently employed to gather data through examination, observation, case studies, and material analysis in fields like social sciences, education, marketing, and healthcare. The objective of descriptive research is to provide a clear and comprehensive overview of the topic, often serving as a foundation for subsequent studies. For this research, primary data was collected via online questionnaires. A total of 240 responses were gathered from participants in Uttar Pradesh. The focus was on individuals who either make their own financial decisions or offer advice on financial issues, including members of the general public, financial advisors, and professionals in finance-related sectors. This varied group was chosen because individuals contribute diverse backgrounds and strategies to both behavioral finance and traditional financing methods. By investigating a large and diverse population, the study aimed to comprehend how different individuals utilize these financial frameworks in their economic decision-making.

#### 5.1.2 Sampling Technique

The researchers employed simple random sampling to choose the participants. This method minimizes selection bias by ensuring that each individual in the target population has the same independent chance of being selected for the sample. To enhance the specificity of the results to the group, the sample was drawn from a broad spectrum of individuals with varying levels of engagement with digital financial services. This technique proved to be effective in obtaining insights concerning the quality and accessibility of mobile networks, internet connectivity, and digital literacy programs, despite favoring a specific category.

### 5.2 Methodology

#### 5.2.1 Quantitative Data

The quantitative data used in this research are gathered through a standardized questionnaire. Participants evaluate their opinions and experiences on a 5-point Likert scale, indicating their level of agreement with statements pertaining to technology infrastructure, such as digital literacy, cell network strength, and internet availability. The statistical analyses enabled by these numerical data include central tendencies (averages), measures of dispersion (standard deviations), and the exploration of relationships between variables. Various facets of digital infrastructure facilitate an objective analysis of trends, connections, and patterns, as well as

their role in supporting digital financial services.

### 5.2.2 Data Collection Method

Data are acquired through a structured survey instrument incorporating questions with a seven-point Likert scale, which allows respondents to indicate their level of agreement from Strongly Agree to Strongly Disagree, including options for neutral responses.

### 5.2.3 Instrument Design

The questionnaire is organized into sections that align with the conceptual framework of the study. To facilitate data collection, it is distributed digitally using Google Forms.

**a) Statistical Treatment of Data:** Data analysis utilizes the Partial Least Squares-Structural Equation Modelling (PLS-SEM) approach, employing analytical software like Smart PLS to investigate the relationships defined in the research model.

**b) Descriptive Statistics:** Descriptive analysis summarizes demographic data and general response patterns (e.g., mean values, frequencies, standard deviations).

**c) Indicator Reliability:** The outer loadings are evaluated to ensure that each item consistently measures its respective constructs.

**d) Construct Reliability and Validity:** The internal consistency of the constructs is assessed using Cronbach's Alpha coefficients alongside measures of composite reliability to gauge the reliability of the measurement scales.

**e) Discriminant Validity:** The Fornell-Larcker criterion is applied to verify that each construct is sufficiently distinct from other variables in the model, ensuring conceptual clarity.

**f) Path Analysis:** Path analysis assesses the strength of the relationships between variables within the model.

**g) Bootstrapping:** Statistical significance testing of pathway relationships is carried out using bootstrapping procedures, which analyze probability values and t-statistics to validate the proposed connections between constructs.

## 6. DATA ANALYSIS AND INTERPRETATION

### 6.1 Measurement Model Assessment (PLS Results):

Table 6.1: Indicator Reliability (Outer Loadings)

|               | EI    | FIPE  | IODF  | SCI | TI |
|---------------|-------|-------|-------|-----|----|
| <b>EI 1</b>   | 0.721 |       |       |     |    |
| <b>EI 2</b>   | 0.833 |       |       |     |    |
| <b>EI 3</b>   | 0.854 |       |       |     |    |
| <b>FIPE 1</b> |       | 0.906 |       |     |    |
| <b>FIPE 2</b> |       | 0.876 |       |     |    |
| <b>FIPE 3</b> |       | 0.756 |       |     |    |
| <b>IODF 1</b> |       |       | 0.975 |     |    |
| <b>IODF 2</b> |       |       | 0.962 |     |    |
| <b>IODF 3</b> |       |       | 0.976 |     |    |

|               |  |  |       |       |              |
|---------------|--|--|-------|-------|--------------|
| <b>IODF 4</b> |  |  | 0.972 |       |              |
| <b>SCI 1</b>  |  |  |       | 0.895 |              |
| <b>SCI 2</b>  |  |  |       | 0.940 |              |
| <b>SCI 3</b>  |  |  |       | 0.950 |              |
| <b>SCI 4</b>  |  |  |       | 0.938 |              |
| <b>SCI 5</b>  |  |  |       | 0.930 |              |
| <b>TI 1</b>   |  |  |       |       | <b>0.995</b> |
| <b>TI 2</b>   |  |  |       |       | <b>0.990</b> |
| <b>TI 3</b>   |  |  |       |       | <b>0.997</b> |
| <b>TI 4</b>   |  |  |       |       | <b>0.995</b> |
| <b>TI 5</b>   |  |  |       |       | <b>0.991</b> |

**Interpretation (Table 6.1):** A strong indicator shows that relief is represented by the external load for all research structures, encompassing independent variables (IODF) and dependent variables (FIDE, EI, SCI, and TI), which have an acceptable threshold of 0.70. The measurement is robust, as evidenced by the exceptionally high reliability of IODF (Impact of Digital Finance) indicators (0.962–0.976). The load for FIDE (Financial Inclusion Program Effectiveness) ranges from 0.756 to 0.906, indicating substantial impact, while the dependency on FIDE3 is somewhat lower but remains commendable. For EI (Economic Impact), the indicators show a moderate influence with loads between 0.721 and 0.854. The loads for SCI (Social and Cultural Influence) are excellent, ranging from 0.895 to 0.950, and TI (Technological Impact) demonstrates very high reliability with loads from 0.990 to 0.997. Each dimension exhibited a good quality of measurement, affirming the model's suitability in assessing the effects of digital funds on financial inclusion.

## 6.2 Construct reliability and Validity

Table 6.2: Construct Reliability and Validity

|             | <b>Cronbach's alpha</b> | <b>Composite reliability (rho_a)</b> | <b>Composite reliability (rho_c)</b> | <b>Average variance extracted (AVE)</b> |
|-------------|-------------------------|--------------------------------------|--------------------------------------|-----------------------------------------|
| <b>EI</b>   | <b>0.728</b>            | <b>0.752</b>                         | <b>0.846</b>                         | <b>0.647</b>                            |
| <b>FIPE</b> | <b>0.802</b>            | <b>0.819</b>                         | <b>0.884</b>                         | <b>0.720</b>                            |
| <b>IODF</b> | <b>0.980</b>            | <b>0.980</b>                         | <b>0.985</b>                         | <b>0.944</b>                            |
| <b>SCI</b>  | <b>0.961</b>            | <b>0.963</b>                         | <b>0.970</b>                         | <b>0.866</b>                            |
| <b>TI</b>   | <b>0.997</b>            | <b>0.997</b>                         | <b>0.997</b>                         | <b>0.987</b>                            |

**Interpretation (Table 6.2):** This PLS-SEM model demonstrates strong internal stability, as determined by the reliability assessment for all latent variables. Each construct has a Cronbach's alpha value exceeding the acceptable threshold of 0.70, indicating robust reliability: TI (0.997), SCI (0.961), IODF (0.980), FIPE (0.802), and EI (0.728). Furthermore, the overall reliability value (rho\_c), ranging from 0.846 to 0.997, is notably high, reflecting the adaptability of the measurement model. Notably, the total reliability for IODF, SCI, and TI is

0.985, 0.970, and 0.997, respectively, indicating that their associated indicators consistently measure the construct.

All constructs exhibit adequate convergence validity, as shown by their average variance extracted (AVE), all surpassing the recommended cutoff of 0.50: TI (0.987), SCI (0.866), IODF (0.944), FIPE (0.720), and EI (0.647). These elevated AVE values indicate that a considerable amount of variance is accounted for by the constructs in comparison to measurement error. The model constructs, IODF (independent variables) and FIDE, EI, SCI, and TI (dependent variables), showed high reliability and are appropriate for structural analysis, based on the comprehensive reliability data.

### 6.3 Discriminant Validity

Table 6.3: Discriminant Validity Matrix

|      | EI           | FIPE         | IODF         | SCI          | TI |
|------|--------------|--------------|--------------|--------------|----|
| EI   |              |              |              |              |    |
| FIPE | <b>0.627</b> |              |              |              |    |
| IODF | <b>0.686</b> | <b>0.525</b> |              |              |    |
| SCI  | <b>0.472</b> | <b>0.271</b> | <b>0.727</b> |              |    |
| TI   | <b>0.075</b> | <b>0.048</b> | <b>0.578</b> | <b>0.049</b> |    |

**Interpretation (Table 6.3):** The discriminant validity of the constructs in the PLS-SEM model was evaluated using the Fornell-Larcker criterion. This approach entails comparing the square root of the average variance extracted (AVE) for each construct with the correlations of that construct to all other constructs in the model to ascertain whether each construct is adequately distinct from the others. A construct must demonstrate a higher correlation with itself than with any other constructs to establish discriminant validity (indicated on the diagonal). In this study, the constructs: Technology Inclusion (TI), Social Capital Inclusion (SCI), Economic Inclusion (EI), Financial Inclusion Through Digital Engagement (FIDE), and the effect of Digital Finance (IODF) fulfill this criterion. While the correlation with TI is at 0.686, FIDE shows 0.525, SCI at 0.472, and EI at 0.578, IODF has a notable internal value of 0.727. Likewise, the distinctiveness from FIDE, SCI, and TI is evident, as they have higher diagonal values compared to their correlations with other constructs. The inter-construct correlations between SCI and EI (0.049) and between TI and EI (0.075) are the weakest, highlighting the differences among the constructs. In summary, the findings affirm that each component of the model exhibits adequate discriminant validity, ensuring that each addresses a unique facet of the broader concepts of digital finance and financial inclusion.

### 6.4 Structural Model Assessment (Bootstrapping results):

Table 6.4: Path Coefficients and Significance (Bootstrapping)

|       | Original sample (O) | Sample mean (M) | Standard deviation (STDEV) | T-statistics ( O/STDEV ) | P values     |
|-------|---------------------|-----------------|----------------------------|--------------------------|--------------|
| EI -> | <b>0.243</b>        | <b>0.244</b>    | <b>0.023</b>               | <b>10.590</b>            | <b>0.000</b> |
| IODF  |                     |                 |                            |                          |              |

|                      |              |              |              |               |              |
|----------------------|--------------|--------------|--------------|---------------|--------------|
| <b>FIPE-&gt;IODF</b> | <b>0.213</b> | <b>0.214</b> | <b>0.023</b> | <b>9.246</b>  | <b>0.000</b> |
| <b>SCI IODF</b>      | <b>0.531</b> | <b>0.530</b> | <b>0.028</b> | <b>19.101</b> | <b>0.000</b> |
| <b>TI -&gt; IODF</b> | <b>0.530</b> | <b>0.529</b> | <b>0.030</b> | <b>17.570</b> | <b>0.000</b> |

**Interpretation (Table 6.4) :** The P-value is utilized to determine the statistical significance of the connections between the structures, assessing the importance of structural pathways within the PLS-SEM model. The dependent variables in this model are FIPE (Financial Inclusion Program Effectiveness), EI (Economic Impact), SCI (Social and Cultural Impact), and TI (Technology Inclusion). All paths associated with the independent variable, IODF (Impact of Digital Finance), have P-values that are substantially lower than the conventional threshold of 0.05. This finding suggests that the influence of all four components on IODF inclusion is statistically significant. The most pronounced impact on IODF is observed particularly in SCI ( $p = 0.000$ ,  $t = 19.101$ ) and TI ( $p = 0.000$ ,  $t = 17.570$ ), indicating that social capital and technological inclusion are critical to shaping the outcomes of digital finance. Although they have a relatively smaller effect size, one ( $p = 0.000$ ,  $t = 10.590$ ) and FIPE ( $p = 0.000$ ,  $t = 9.246$ ) also contribute significantly. The view that various elements of economic inclusion have a strong influence on digital funding is consistently reinforced by statistical significance, which also considers the robustness of structural conditions.

Figure 6.1: Path Coefficients Histogram: EI -> IODF

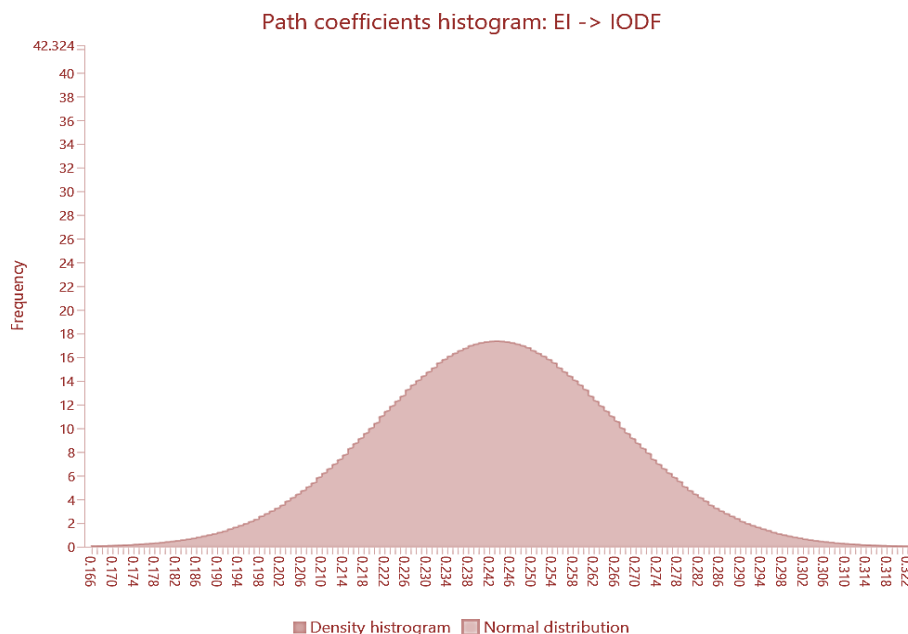


Figure 6.2: Path Coefficients Histogram: FIPE -> IODF

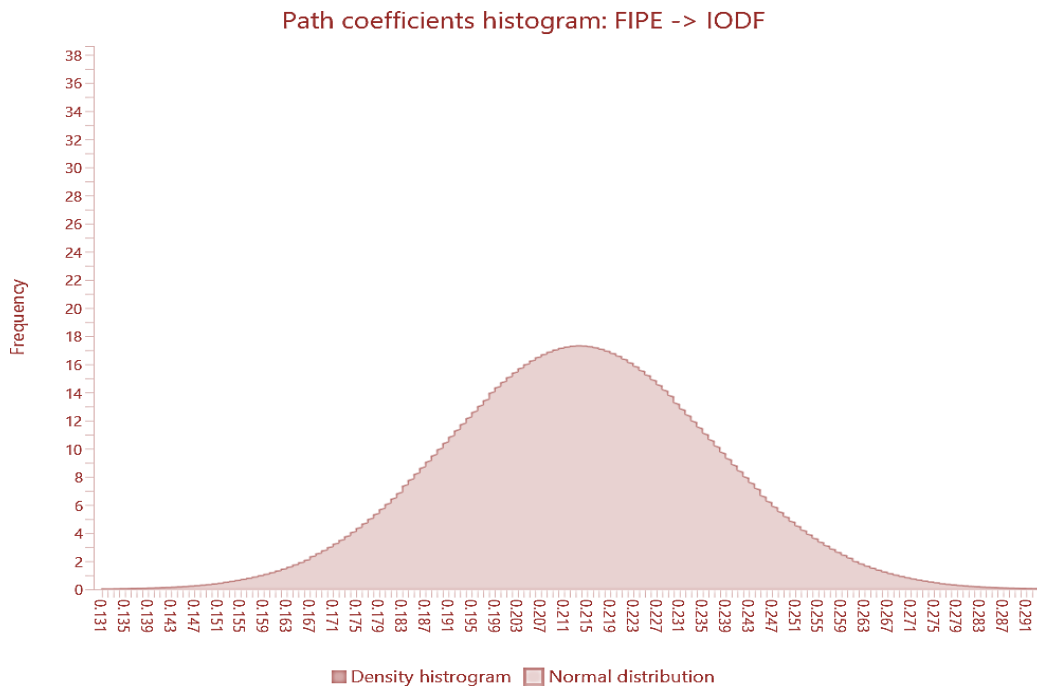
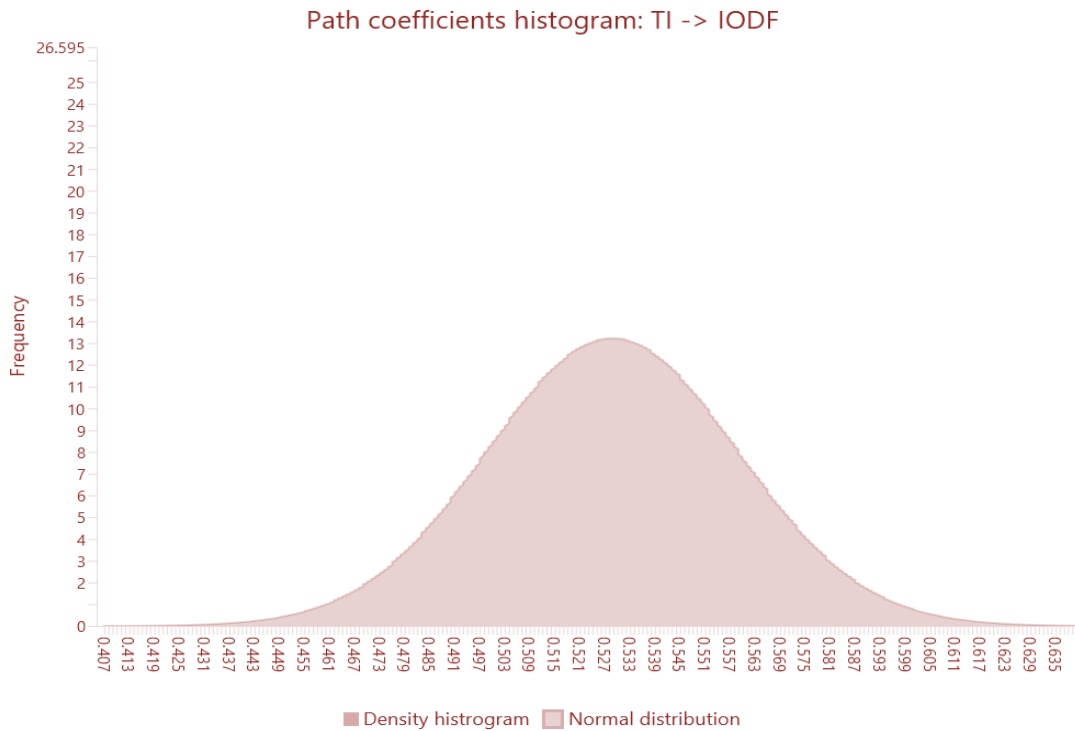
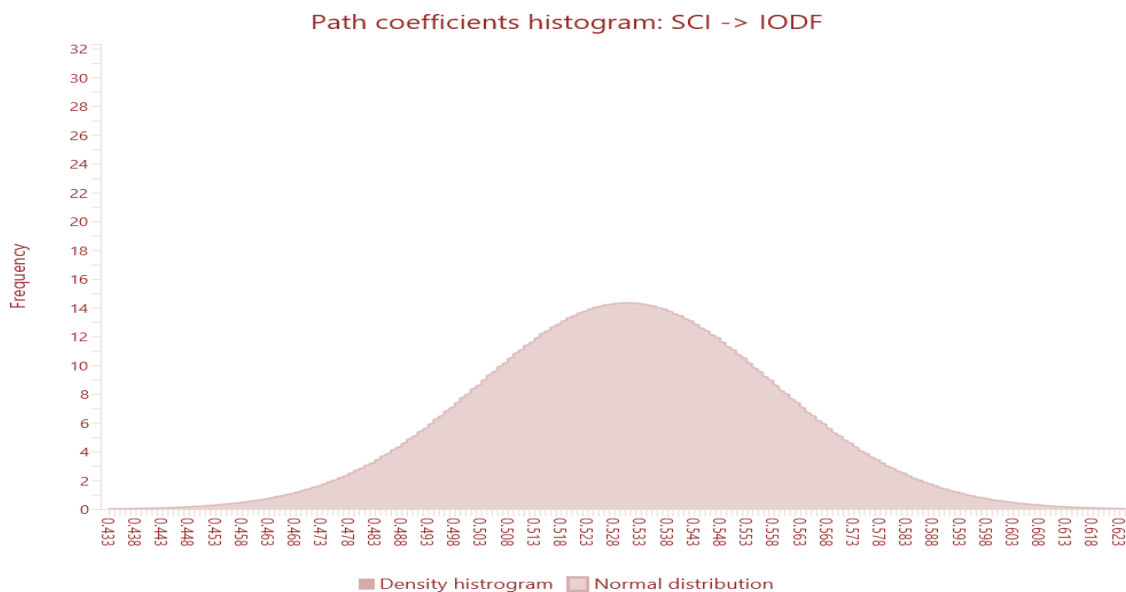


Figure 6.3: Path Coefficients Histogram: TI -> IODF



**Figure 6.4: Path Coefficients Histogram: SCI -> IODF**



## 7. FINDINGS

**7.1.** A strong connection exists between economic inclusion and digital financing: Access to digital financial services has significantly improved, especially for marginalized groups (such as individuals with low incomes and those residing in rural areas). Financial tools are now more readily available due to offerings like agent banking, digital wallets, and mobile banking.

**7.2.** Positive impact on the economy: The report indicates a robust correlation between financial authority and digital financing. It enhances access to capital, promotes entrepreneurship, and fosters saving behaviors. Areas with better digital economic infrastructure show higher returns on entrepreneurial investments, aligning with studies from China and India.

**7.3.** The significance of technological infrastructure: Quality access to mobile networks is crucial for effective digital financing. The implementation of Eclipse continues to face challenges due to inadequate connectivity or low levels of digital literacy.

**7.4.** Social and cultural factors play a role: Adoption is affected by social norms, family structures, and cultural practices. Tailored strategies are required to address cultural differences to promote widespread acceptance. The adoption of digital platforms is more successful when supported by social trust and assistance.

**7.5.** Increased productivity and reduced costs: Digital platforms eliminate the necessity for physical banking, offering infrastructure and lower transaction expenses. These systems enhance consumer satisfaction and convenience by delivering cost-effective, real-time financial services.

## 8. CONCLUSION

By focusing on usage patterns, supporting infrastructure, and access to financial services, this research comprehensively explored the intricate connections between digital finance and economic inclusion. The findings indicate that digital financial services have a significant and impactful relationship with enhanced access to financial services for a broader demographic. This study employed data-driven analysis to investigate crucial elements such as mobile banking applications, online payment systems, internet connectivity, mobile networks, and individuals' capacity to effectively utilize digital tools. The results show that these digital

technologies truly facilitate the provision of banking and financial services to those who might otherwise be marginalized by the conventional financial system.

When digital financial services are enhanced, a robust ecosystem emerges, evidenced by substantial coordination among digital financial indicators. Moreover, these services demonstrate a stable and essential correlation with factors related to financial inclusion, indicating that greater digital access encourages the utilization of bank accounts, credit services, and financial literacy. Digital finance allows individuals, particularly those in low-income and rural areas, to engage in formal economic systems in a more accessible and secure manner.

The research also indicates that the quality of digital infrastructure has a direct impact on the effectiveness of economic inclusion initiatives. While there are advancements in digital literacy programs, relatively low satisfaction levels concerning the robustness of cellular networks and internet quality reveal that infrastructure gaps must be addressed. To leverage the benefits of digital banking, these findings underscore the need for advancements in technology, education, and a holistic approach that incorporates legal frameworks.

Additionally, the study highlights that social and cultural factors play a crucial role in usage patterns. Traditional beliefs, family expectations, and societal norms all influence individuals' perceptions of digital financial tools. It is essential to acknowledge and modify these factors to develop financial solutions that are user-friendly and culturally appropriate.

In summary, digital finance has emerged as a key driver in fostering equitable development and narrowing financial disparities. However, to achieve its full potential, there must be a concerted effort not only towards technological advancements but also in enhancing infrastructure, stability, digital literacy, and cultural acceptance. This report offers valuable insights that can assist financial institutions, policymakers, and software developers in devising strategies aimed at boosting economic inclusion in India and beyond.

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