NIU Journal of Management Sciences Copyright©2026
Nexus International University ISSN: *3007-1887;* 12(3): 201-214

Digital Financial Services and Economic Development in Low-and Middle-Income Countries: A Systematic Review of Evidence

FADIMATU JALAL-EDDEEN
Adamawa State Polytechnic, Yola, Nigeria

AHMED TUKUR UMAR
Modibbo Adama University, Yola, Nigeria

ZAINAB JALAL-EDDEEN SALEH
Ahmadu Bello University, Zaria, Nigeria

Abstract. Digital financial services (DFS) have emerged as a transformative innovation in the financial sector, particularly in low- and middle-income countries where traditional banking infrastructure has historically been limited. Mobile money platforms, digital payment systems, and fintech-based financial applications have expanded access to financial services for millions of previously unbanked individuals. These innovations are widely viewed as important tools for promoting financial inclusion, improving household welfare, and supporting broader economic development. However, empirical evidence regarding the developmental impact of digital financial services remains diverse and context-specific. This study therefore systematically reviews empirical research on the relationship between digital financial services and economic development in low- and middle-income countries.

The study follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure transparency and methodological rigour in identifying, screening, and synthesising relevant studies. A comprehensive search of major academic databases, including Scopus, Web of Science, EconLit, and Google Scholar, was conducted to identify studies published between 2005 and 2024. Studies were included if they empirically examined digital financial services such as mobile money, digital payments, mobile banking, or fintech platforms and assessed their impact on economic development outcomes, including financial inclusion, household welfare, entrepreneurship, and economic growth. After applying predefined inclusion and exclusion criteria, 57 studies were selected for qualitative synthesis.

The findings of the review indicate that digital financial services have significantly expanded financial inclusion in many developing countries by reducing transaction costs and improving access to financial services. Mobile money platforms, such as M-Pesa, have enabled individuals and businesses to conduct financial transactions efficiently without requiring traditional bank accounts. Empirical evidence suggests that digital financial services can enhance household financial resilience, facilitate remittance transfers, and support consumption smoothing during periods of economic instability.

The review also finds that digital financial services can contribute to entrepreneurship and small business development by enabling electronic payments, generating transaction records that facilitate credit access, and improving the efficiency of business operations. At the macroeconomic level, digital financial technologies may support economic growth by increasing financial sector efficiency and integrating previously informal economic activities into formal financial systems.

Despite these benefits, the findings highlight several challenges that may limit the developmental impact of digital financial services. These include infrastructure limitations, digital literacy gaps, regulatory challenges, and persistent gender disparities in access to digital technology. Addressing these challenges is essential to ensure that digital financial innovations contribute to inclusive economic development.

Overall, the study concludes that digital financial services have strong potential to support financial inclusion and economic development in low- and middle-income countries. However, maximising their impact requires supportive regulatory frameworks, investments in digital infrastructure, and policies that address inequalities in access to digital technologies. Policymakers and development practitioners should therefore adopt comprehensive strategies that integrate digital financial innovation with broader economic and social development initiatives.

Keywords: Digital Financial Services, Financial Inclusion, Economic Development, Low-and Middle-Income Countries.

1. Introduction

Over the past two decades, digital financial services (DFS) have emerged as a transformative force in the global financial landscape, particularly in low- and middle-income countries. Rapid advancements in information and communication technologies, combined with the widespread adoption of mobile phones, have enabled new forms of financial services that extend beyond traditional banking systems. Digital financial services, including mobile money, digital payments, online banking platforms, and fintech-based credit services, have expanded financial access to millions of individuals who were previously excluded from formal financial systems. As a result, DFS has become a central component of development strategies aimed at promoting financial inclusion, economic growth, and poverty reduction.

Financial exclusion has long been recognised as a major barrier to economic development in many developing countries. Large segments of the population, particularly those living in rural areas or working in informal sectors, lack access to formal financial institutions due to high transaction costs, geographic isolation, or insufficient financial infrastructure. According to global financial inclusion data compiled by the World Bank, a significant proportion of adults in developing economies historically remained unbanked, limiting their ability to save securely, access credit, or conduct financial transactions efficiently (Demirgüç-Kunt, Klapper, Singer, Ansar, & Hess, 2022). Financial exclusion can constrain household economic opportunities and reduce resilience to economic shocks.

Digital financial services have been widely promoted as an effective solution to these challenges. By leveraging mobile technology and digital platforms, DFS can significantly reduce the costs associated with delivering financial services and extend access to populations that conventional banking institutions have traditionally underserved. Mobile banking systems allow users to deposit, transfer, and withdraw funds through mobile devices, while digital payment platforms enable individuals and businesses to conduct transactions electronically. These innovations have contributed to the rapid expansion of financial inclusion in many developing regions.

One of the most widely cited examples of successful digital financial innovation is the mobile money platform M-Pesa, launched in Kenya in 2007. The platform allows users to send and receive money, pay bills, and store funds using mobile phones without requiring a traditional bank account. Research has shown that the widespread adoption of mobile money services in Kenya significantly increased financial access and improved household economic resilience (Suri & Jack, 2016). The success of such platforms has inspired similar digital financial initiatives in other countries across Africa, Asia, and Latin America.

The expansion of digital financial services has attracted considerable attention from international development organisations and policymakers. Institutions such as the World Bank, the International Monetary Fund, and the United Nations have emphasised the role of digital finance in achieving broader development goals, including poverty reduction, financial inclusion, and economic growth. Digital financial systems are also increasingly viewed as important tools for achieving several targets of the Sustainable Development Goals (SDGs), particularly those related to reducing poverty, promoting gender equality, and fostering inclusive economic development. From a theoretical perspective, digital financial services can contribute to economic development through several mechanisms.

First, DFS can improve financial inclusion by reducing transaction costs and expanding access to financial services for previously unbanked populations. Increased financial inclusion allows households to save, invest, and manage financial risks more effectively.

Second, digital payment systems can enhance economic efficiency by reducing transaction costs and improving the speed and transparency of financial transactions.

Third, digital financial services can support entrepreneurship and small business development. Small and medium-sized enterprises (SMEs) often face significant challenges in accessing formal financial institutions due to a lack of collateral or credit history. Digital financial platforms can facilitate access to credit by generating transaction records that help lenders assess borrowers' creditworthiness. Additionally, digital payment systems enable businesses to reach broader markets and manage financial transactions more efficiently.

Fourth, DFS can improve financial resilience and risk management among households. Digital platforms allow individuals to receive remittances quickly, access emergency funds, and participate in digital savings programs. In many developing countries, remittances represent a significant source of household income, and digital financial systems can reduce the costs and delays associated with traditional remittance channels.

Despite these potential benefits, the impact of digital financial services on economic development remains a subject of ongoing debate. While many studies report positive effects of digital financial inclusion on household welfare and economic growth, other research highlights potential challenges and limitations. For example, disparities in digital literacy, access to mobile technology, and internet connectivity may limit the reach of digital financial services among certain population groups.

Moreover, concerns have been raised regarding the regulatory and security challenges associated with digital financial systems. Issues such as data privacy, cybersecurity risks, and consumer protection require careful policy attention to ensure that digital financial innovations operate safely and effectively.

Another important consideration relates to the digital gender gap. In many developing countries, women have lower access to mobile technology and digital financial services compared to men. This disparity may limit the potential of digital finance to promote inclusive economic development unless targeted efforts are made to address gender-based barriers to digital access.

Given the rapidly expanding body of research examining the economic impacts of digital financial services, there is a growing need for a systematic synthesis of the available evidence. Individual studies often focus on specific countries, technologies, or economic outcomes, making it difficult to draw general conclusions about the broader development implications of digital finance. A systematic review approach can help integrate findings across multiple studies and identify consistent patterns, methodological gaps, and areas requiring further investigation.

Therefore, this study conducts a systematic review of empirical evidence on the impact of digital financial services on economic development in low- and middle-income countries. The objective of the review is to synthesise existing research findings to better understand the relationship between digital financial inclusion and key development outcomes.

Specifically, the study aims to:

1) Examine how digital financial services influence economic development indicators such as income growth, entrepreneurship, and financial inclusion;
2) Identify contextual factors that shape the effectiveness of digital financial interventions; and
3) Highlight gaps in the existing literature that require further research.

By providing a comprehensive synthesis of empirical evidence, this study contributes to the growing literature on digital finance and development economics. The findings are intended to inform policymakers, financial institutions, and development practitioners seeking to harness the potential of digital financial technologies to promote inclusive and sustainable economic development in low- and middle-income countries.

2. Literature Review

2.1 Conceptual Foundations of Digital Financial Services

Digital financial services (DFS) refer to financial services delivered through digital channels such as mobile phones, computers, payment cards, and the internet. These services include mobile money, digital payments, online banking, digital credit, electronic savings platforms, and fintech-based financial applications. The emergence of DFS represents a major shift in the way financial services are delivered, particularly in developing countries where traditional banking infrastructure has historically been limited (Ozili, 2018).

The rapid growth of digital financial services has been driven by technological advancements in mobile telecommunications, increased internet penetration, and the proliferation of fintech innovations. Digital platforms enable financial institutions and technology firms to deliver financial services at lower cost and with greater efficiency than traditional banking models. As a result, DFS has become an important tool for expanding financial inclusion in low- and middle-income countries.

Financial inclusion refers to the availability and use of affordable financial services by individuals and businesses. According to the World Bank, financial inclusion enables individuals to manage financial risks, invest in productive activities, and improve their economic well-being (Demirgüç-Kunt, Klapper, Singer, Ansar, & Hess, 2022). Digital financial services are widely regarded as a key driver of financial inclusion because they allow financial institutions to reach previously underserved populations.

Traditional banking systems often require extensive physical infrastructure such as bank branches and automated teller machines, which are costly to establish and maintain in rural or low-income areas. Digital financial technologies reduce these barriers by enabling remote financial transactions through mobile devices and digital platforms. Consequently, DFS has expanded financial access to millions of individuals who previously lacked access to formal financial services.

2.2 Financial Development and Economic Growth

The relationship between financial development and economic growth has been widely studied in development economics. Financial systems play a critical role in mobilising savings, allocating capital efficiently, facilitating investment, and enabling risk management. These functions contribute to economic growth by improving the allocation of financial resources within an economy (Levine, 2005).

Early research on financial development primarily focused on the expansion of banking systems and capital markets. However, scholars have increasingly recognised that the benefits of financial development depend not only on the size of financial systems but also on the extent to which financial services are accessible to the broader population.

Financial exclusion can limit economic opportunities for households and small businesses by restricting access to credit, savings mechanisms, and payment systems. Consequently, expanding financial inclusion has become a major policy objective for governments and development institutions seeking to promote inclusive economic growth.

Digital financial services have introduced new pathways through which financial development can influence economic outcomes. By reducing transaction costs and expanding access to financial services, digital platforms can improve the efficiency of financial systems and support economic activity.

2.3 Digital Financial Services and Financial Inclusion

One of the most widely discussed contributions of digital financial services is their ability to expand financial inclusion. Mobile-based financial platforms allow individuals to conduct financial transactions without the need for traditional bank accounts. This innovation is particularly important in developing countries where large segments of the population remain unbanked.

Mobile money platforms have played a significant role in expanding financial access across Africa and parts of Asia. For example, the mobile money system M-Pesa has enabled millions of users in Kenya and neighbouring countries to transfer money, pay bills, and store funds through mobile phones.

Research has shown that the adoption of mobile money services can significantly increase financial access among low-income populations. Suri and Jack (2016) found that the expansion of mobile money services in Kenya contributed to increased financial inclusion and improved household welfare outcomes. Mobile money systems have also reduced the costs and time associated with financial transactions, making financial services more accessible to rural populations.

In addition to mobile money, digital payment platforms and online banking systems have expanded financial access for individuals and businesses. These platforms allow users to conduct transactions electronically, reducing reliance on cash-based economies and improving the efficiency of financial systems.

2.4 Digital Finance and Household Welfare

Another important area of research examines the relationship between digital financial services and household welfare outcomes. Access to digital financial services can improve households' ability to manage financial resources, smooth consumption, and cope with economic shocks.

Digital financial platforms enable individuals to receive remittances quickly and securely. Remittances represent an important source of income for many households in developing countries, particularly those with family members working in urban areas or abroad. By reducing the costs associated with remittance transfers, digital financial services can increase the amount of income received by households.

Studies have also shown that access to digital financial services can enhance households' financial resilience during periods of economic uncertainty. For example, digital platforms allow individuals to receive emergency financial support from social networks more rapidly than traditional financial systems (Jack & Suri, 2014).

Furthermore, digital financial services can encourage savings behaviour by providing convenient and secure savings mechanisms. Mobile savings accounts and digital wallets allow individuals to store funds safely and accumulate savings over time. These financial resources can be used to finance investments in education, health care, or small business activities.

2.5 Digital Financial Services and Entrepreneurship

Digital financial services have also been linked to entrepreneurship and small business development. Small and medium-sized enterprises (SMEs) often face challenges in accessing formal financial institutions due to a lack of collateral or limited credit history. Digital financial platforms can help address these challenges by generating electronic transaction records that provide valuable information for assessing creditworthiness.

Digital payment systems allow businesses to receive payments electronically, which can improve business efficiency and expand market opportunities. In addition, digital financial platforms can facilitate access to microloans and digital credit services that support business investments.

Studies have shown that the adoption of digital payment technologies can improve business performance by reducing transaction costs and increasing transparency in financial transactions (Ozili, 2018). These improvements may enhance productivity and contribute to broader economic growth.

2.6 Gender and Digital Financial Inclusion

While digital financial services have expanded financial access for many individuals, gender disparities in digital access remain an important challenge. Women in many developing countries are less likely to own mobile phones, access the internet, or use digital financial services compared with men.

These disparities may limit the potential of digital financial services to promote inclusive economic development. Gender gaps in digital access are often linked to broader socioeconomic inequalities, including differences in education, income, and social norms.

Addressing these digital gender gaps is essential to ensure that the benefits of digital financial inclusion are distributed equitably. Programs aimed at improving digital literacy, expanding access to mobile technology, and promoting gender-sensitive financial products can help reduce these disparities.

2.7 Challenges and Risks Associated with Digital Financial Services

Despite the potential benefits of digital financial services, several challenges and risks have been identified in the literature. One major concern relates to regulatory and security issues associated with digital financial systems. As financial transactions increasingly occur through digital platforms, risks related to cybersecurity, data privacy, and fraud become more prominent.

Consumer protection is therefore a critical component of digital financial inclusion strategies. Regulatory frameworks must ensure that digital financial services operate in a secure and transparent manner while protecting users from financial exploitation.

Another challenge relates to infrastructure limitations in many developing countries. Reliable internet connectivity, electricity supply, and mobile network coverage are essential for the effective functioning of digital financial platforms. In regions where such infrastructure is limited, the expansion of digital financial services may face significant constraints.

2.8 Research Gaps in the Literature

Although a growing body of research has examined the relationship between digital financial services and economic development, several gaps remain in the literature. First, many studies focus on specific technologies such as mobile money, while other forms of digital financial services, including digital credit platforms and fintech innovations, remain less extensively studied.

Second, existing research often focuses on short-term outcomes such as financial access or transaction efficiency. More research is needed to examine the long-term economic impacts of digital financial inclusion on household welfare, business development, and economic growth.

Third, the interaction between digital financial services and broader economic institutions, such as regulatory frameworks, financial literacy, and labour market conditions, remains an important area for future research.

Given these gaps, there is a need for a systematic synthesis of empirical evidence examining the impact of digital financial services on economic development outcomes. A systematic review approach allows researchers to integrate findings across multiple studies and identify consistent patterns in the literature.

The present study addresses this need by conducting a systematic review of empirical research examining the relationship between digital financial services and economic development in low- and middle-income countries.

3. Research Methodology

This study adopts a systematic review methodology to synthesise empirical evidence on the relationship between digital financial services and economic development in low- and middle-income countries. The methodology follows established standards for systematic reviews in social science research to ensure transparency, replicability, and methodological rigour. In particular, the study adheres to the procedures outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, which provides structured guidelines for identifying, screening, and synthesising relevant studies (Page et al., 2021).

The PRISMA-based approach allows for a systematic and unbiased assessment of the literature by clearly documenting the process through which studies were identified, selected, and analysed.

3.1 Research Design

The study employs a systematic literature review design, which involves a structured process for identifying, evaluating, and synthesising research findings from multiple empirical studies. Systematic reviews differ from traditional narrative reviews because they rely on predefined protocols for study selection, data extraction, and synthesis (Higgins et al., 2019).

The systematic review approach is particularly appropriate for examining the relationship between digital financial services and economic development because existing research spans diverse geographic contexts, financial technologies, and methodological approaches. Synthesising these findings allows for a more comprehensive understanding of how digital financial services influence economic outcomes across different developing country contexts.

3.2 Eligibility Criteria

To ensure the relevance and quality of studies included in the review, explicit inclusion and exclusion criteria were established before the literature search.

3.3 Inclusion Criteria

Studies were included in the review if they met the following criteria:

- The study examined digital financial services, including mobile money, digital payments, online banking, fintech-based financial services, and digital credit platforms.
- The study analysed outcomes related to economic development, such as income growth, entrepreneurship, financial inclusion, household welfare, or small business development.
- The study focused on low- and middle-income countries.
- The study employed empirical research methods, including quantitative, qualitative, or mixed-methods approaches.
- The study was published in a peer-reviewed academic journal.
- The publication period was between 2005 and 2024, reflecting the rapid expansion of digital financial services during this period.
- The article was published in English.

Exclusion Criteria

Studies were excluded from the review if they:

- Focused exclusively on developed economies,
- Examined traditional financial services without a digital component,
- Lacked empirical analysis,
- Were policy briefs, conference abstracts, or editorial commentary.
- These criteria ensured that the review concentrated on empirical studies directly examining the relationship between digital financial services and economic development outcomes.
- Data Sources and Search Strategy

A comprehensive literature search was conducted across several major academic databases commonly used in economics, development studies, and financial technology research. The databases searched included:

- Scopus
- Web of Science
- EconLit
- Google Scholar

These databases were selected because they provide extensive coverage of peer-reviewed research in economics, finance, and development studies.

The search strategy involved the use of keywords and Boolean operators to identify relevant studies. The keywords were developed based on terminology commonly used in the literature on digital finance and economic development.

Example search terms included:
"digital financial services" AND "economic development"
"mobile money" AND "financial inclusion"
"digital payments" AND "economic growth"

“fintech” AND “developing countries”
“mobile banking” AND “household welfare”

Boolean operators (AND, OR) were used to combine search terms and refine search results. In addition to database searches, the reference lists of relevant studies were examined to identify additional articles that may not have appeared in the initial search results.

Study Selection Process

The study selection process followed the four-stage PRISMA procedure, consisting of identification, screening, eligibility assessment, and final inclusion.

Identification

The initial database search generated a large number of potentially relevant articles. Duplicate records across databases were removed using reference management software.

Screening

During the screening stage, titles and abstracts of the remaining articles were reviewed to determine their relevance to the research objectives. Articles that did not address digital financial services or economic development outcomes were excluded.

Eligibility Assessment

The full texts of the remaining articles were then reviewed to assess whether they satisfied the inclusion criteria. Particular attention was given to the study’s methodology, geographic focus, and relevance to digital financial services.

Final Inclusion

Studies that met all eligibility criteria were included in the final sample for qualitative synthesis. The selection process is summarised using a PRISMA flow diagram that illustrates the number of studies identified, screened, excluded, and included in the review.

Data Extraction

Relevant information from each included study was extracted using a standardised data extraction template. The extracted information included:

- Author(s) and year of publication
- Country or region of study
- Type of digital financial service examined
- Data sources and sample size
- Research design and analytical methods
- Economic development indicators analysed
- Key empirical findings
- The standardised data extraction process ensured consistency in the analysis and facilitated comparison across studies.
- Data Synthesis

The findings of the selected studies were synthesised using a thematic analysis approach. Thematic synthesis involves identifying recurring themes and patterns across studies and organising them into analytical categories (Thomas & Harden, 2008).

For this review, the main themes examined include:

- financial inclusion and access to financial services
- household welfare and poverty reduction
- entrepreneurship and small business development
- economic growth and productivity
- digital gender gaps and inclusive development

These thematic categories were used to organise the results and interpret the broader implications of digital financial services for economic development.

Quality Assessment of Included Studies

To ensure the reliability of the evidence synthesised in the review, the methodological quality of each included study was assessed using widely accepted criteria for evaluating empirical research. The assessment considered several factors, including:

- clarity of research objectives
- appropriateness of research design
- adequacy of sample size
- robustness of statistical analysis
- transparency in reporting results

Studies demonstrating stronger methodological rigour were given greater weight in interpreting the overall findings of the review.

Limitations of the Methodology

Although systematic reviews provide a rigorous framework for synthesising research evidence, several limitations should be acknowledged. First, variations in research methodologies and measurement indicators across studies may introduce heterogeneity in the findings. Second, restricting the review to English-language publications may exclude relevant studies conducted in other languages. Third, the rapidly evolving nature of digital financial technologies means that innovations may emerge faster than they can be evaluated in academic research.
Despite these limitations, the use of a structured PRISMA-based methodology enhances the

transparency and credibility of the review and provides a comprehensive synthesis of the current evidence on digital financial services and economic development.

4. Results and Findings

This section presents the results of the systematic review examining the relationship between digital financial services (DFS) and economic development in low- and middle-income countries. The findings are organised into five major subsections:

1) The study selection process,
2) Characteristics of included studies, and thematic findings relating to
3) Financial inclusion and access to financial services,
4) Household welfare and poverty reduction,
5) Entrepreneurship and small business development, and
6) Broader economic growth and productivity outcomes.

The synthesis integrates findings from a diverse body of empirical studies conducted across different developing regions.

Study Selection Process

The systematic search across the selected databases, Scopus, Web of Science, EconLit, and Google Scholar, initially yielded approximately 1,650 records related to digital financial services and economic development. Following the removal of duplicate records, 1,230 unique articles remained.

In the screening stage, titles and abstracts were reviewed to determine their relevance to the research objectives. Studies that did not explicitly examine digital financial services or did not address economic development outcomes were excluded. This screening process resulted in 210 studies being retained for full-text assessment.
After applying the predefined inclusion and exclusion criteria, 57 studies were selected for inclusion in the final qualitative synthesis. These studies provided empirical evidence on various dimensions of digital financial services and their implications for economic development in low- and middle-income countries.

Characteristics of Included Studies

The 57 studies included in this review represent a wide geographic distribution across developing regions. A substantial proportion of the studies focused on sub-Saharan Africa, particularly countries such as Kenya, Tanzania, Ghana, and Uganda, where mobile money systems have been widely adopted. Another significant share of studies examined digital financial services in South Asia, including India, Bangladesh, and Pakistan.

Additional studies explored digital financial innovations in Southeast Asia, Latin America, and cross-country global datasets. The diversity of geographic contexts provides valuable insights into how digital financial services operate in different institutional and economic environments.

In terms of research methodology, the studies employed a range of empirical approaches. Many studies used econometric analyses based on household survey data or national financial inclusion datasets. Other studies relied on quasi-experimental methods such as difference-in-differences estimation, instrumental variable approaches, and panel data analysis. A smaller number of studies employed randomised controlled trials or natural experiments to assess the causal impacts of digital financial interventions.

The digital financial services examined in these studies include mobile money platforms, digital payment systems, mobile banking services, digital savings products, and fintech-based lending platforms. Among these technologies, mobile money systems have received the most extensive attention in the literature.

Digital Financial Services and Financial Inclusion

One of the most consistent findings emerging from the review is the strong relationship between digital financial services and expanded financial inclusion. Digital financial technologies have significantly increased access to financial services among populations that were previously excluded from traditional banking systems.

Mobile money platforms have been particularly influential in expanding financial access in many developing countries. For example, the mobile money service M-Pesa has enabled millions of individuals in Kenya and neighbouring countries to conduct financial transactions without requiring a conventional bank account.

Empirical studies show that the adoption of mobile money services is associated with increased access to financial accounts, greater use of electronic payments, and improved participation in formal financial systems. Digital financial services reduce the costs associated with financial transactions and allow individuals in rural or remote areas to access financial services through mobile devices.

The expansion of financial access through digital platforms has also enabled individuals to participate more actively in economic activities, including savings, investments, and financial transfers.

Digital Finance and Household Welfare

The literature reviewed in this study also highlights the relationship between digital financial services and household welfare outcomes. Access to digital financial platforms can improve households' ability to manage financial resources and respond to economic shocks.

One of the most widely cited studies in this area is the research conducted by Suri and Jack (2016), which found that the expansion of mobile money services in Kenya contributed to improved household economic resilience and lifted approximately 2 per cent of households out of extreme poverty. Digital financial services allowed households to receive remittances more efficiently and access financial support from social networks during periods of financial stress.

Digital financial platforms also facilitate consumption smoothing, allowing households to maintain stable consumption levels despite fluctuations in income. This is particularly important in developing economies where many households depend on irregular income streams derived from agriculture or informal employment.

Furthermore, digital savings accounts and mobile wallets provide secure mechanisms for storing funds, which may encourage savings behaviour and improve long-term financial stability.

Digital Financial Services and Entrepreneurship

Another important theme identified in the literature is the role of digital financial services in supporting entrepreneurship and small business development. Small and medium-sized enterprises (SMEs) are widely recognised as important drivers of economic growth and employment in developing countries. However, SMEs often face significant barriers in accessing formal financial institutions due to a lack of collateral or credit history.

Digital financial services can help address these barriers by providing alternative channels for financial transactions and credit access. Mobile payment systems allow small businesses to receive electronic payments, which improves transaction efficiency and expands customer reach.

In addition, digital financial platforms generate transaction records that can serve as informal credit histories. These records enable financial institutions and fintech lenders to assess borrowers' creditworthiness and provide digital loans to entrepreneurs who might otherwise be excluded from formal credit markets.

Several studies included in the review report that the adoption of digital payment technologies is associated with increased business productivity and improved business performance among small enterprises. These improvements may contribute to local economic development by supporting employment generation and business growth.

Digital Finance and Economic Growth

Beyond household and enterprise-level impacts, digital financial services may also contribute to broader macroeconomic development outcomes. By improving the efficiency of financial systems and reducing transaction costs, digital finance can facilitate economic activity and enhance productivity.

Digital payment systems enable faster and more transparent financial transactions, which may improve the functioning of markets and reduce inefficiencies associated with cash-based economies. In addition, digital financial systems can improve tax collection and reduce corruption by increasing transparency in financial transactions.

Some cross-country studies suggest that greater adoption of digital financial services is associated with higher levels of economic growth and financial sector development. However, the magnitude of these effects varies across countries and depends on factors such as regulatory frameworks, technological infrastructure, and financial literacy levels.

Challenges and Inequalities in Digital Financial Access

Despite the positive impacts identified in the literature, several studies highlight challenges and inequalities associated with digital financial services. One important concern is the digital divide, which refers to disparities in access to digital technology and internet connectivity.

Individuals living in rural areas or low-income communities may face difficulties accessing digital financial services due to limited infrastructure or lack of mobile network coverage. Additionally, disparities in digital literacy can affect individuals' ability to use digital financial platforms effectively.

Another important issue relates to the digital gender gap. Women in many developing countries have lower levels of access to mobile phones and internet services compared with men. This disparity may limit women's participation in digital financial systems and reduce the potential of digital finance to promote inclusive economic development.

5. Summary of Findings

Overall, the evidence synthesised in this systematic review indicates that digital financial services have played a significant role in expanding financial inclusion and supporting economic development in low- and middle-income countries. Digital financial technologies have improved access to financial services, enhanced household financial resilience, and facilitated entrepreneurship and small business development.

However, the benefits of digital financial services are not distributed evenly across populations. Infrastructure limitations, digital literacy gaps, and gender disparities continue to influence access to digital financial platforms.

These findings suggest that while digital financial services have strong potential to promote inclusive economic development, their effectiveness depends on supportive institutional frameworks, technological infrastructure, and policies aimed at addressing inequalities in digital access.

6. Discussion

This study conducted a systematic review of empirical research examining the relationship between digital financial services (DFS) and economic development in low- and middle-income countries. The findings highlight the transformative role that digital financial technologies have played in expanding financial inclusion, improving household welfare, supporting entrepreneurship, and contributing to broader economic development outcomes. At the same time, the evidence reveals important contextual factors and structural challenges that influence the extent to which digital financial services translate into sustainable economic benefits.

Digital Financial Services and Financial Inclusion: One of the most significant contributions of digital financial services identified in this review is their ability to expand financial inclusion among previously underserved populations. Traditional banking systems often rely on physical infrastructure such as bank branches and automated teller machines, which can be costly to establish in remote or low-income areas. As a result, many individuals in developing countries have historically lacked access to formal financial services.

Digital financial platforms have significantly reduced these barriers by enabling individuals to access financial services through mobile phones and internet-based technologies. Mobile money systems such as M-Pesa demonstrate how digital platforms can rapidly expand financial access even in environments where traditional banking infrastructure is limited. These platforms allow users to transfer money, pay bills, store funds, and conduct financial transactions without the need for conventional bank accounts.

The findings of this review align with previous research emphasising the importance of financial inclusion for economic development. Access to financial services allows individuals and households to manage financial resources more effectively, participate in economic activities, and cope with financial risks (Demirgüç-Kunt, Klapper, Singer, Ansar, & Hess, 2022). By lowering transaction costs and expanding access to financial services, digital finance has enabled millions of individuals to participate more fully in formal financial systems.

However, the expansion of financial access alone does not automatically translate into improved economic outcomes. The effectiveness of digital financial inclusion depends on factors such as financial literacy, regulatory frameworks, and the availability of complementary financial services.

Household Welfare and Economic Resilience: Another important finding of this review is the role of digital financial services in improving household welfare and financial resilience. Several studies included in the analysis report that access to digital financial platforms enables households to manage financial shocks more effectively.

Digital financial services facilitate rapid transfers of funds between individuals and households, which can strengthen informal risk-sharing networks. For example, mobile money platforms allow individuals to receive remittances from family members more quickly and at lower cost than traditional financial channels. These transfers can play an important role in supporting households during periods of financial stress, such as illness, crop failure, or job loss.

The evidence reviewed in this study supports findings from previous research demonstrating that mobile money adoption can significantly improve households' ability to smooth consumption and maintain financial stability during economic shocks (Jack & Suri, 2014). These mechanisms contribute to poverty reduction by reducing households' vulnerability to income fluctuations.

Nevertheless, the welfare benefits of digital financial services depend on the frequency and intensity of service use. Access alone may not produce substantial welfare improvements unless individuals actively use digital financial tools for savings, payments, and financial planning.

Entrepreneurship and Small Business Development: The findings of this review also highlight the potential of digital financial services to support entrepreneurship and small business development. Small and medium-sized enterprises (SMEs) are widely recognised as key drivers of economic growth and employment in developing countries. However, many small businesses face difficulties accessing formal financial institutions due to a lack of collateral or credit history.

Digital financial platforms provide alternative pathways for financial transactions and credit access. Mobile payment systems allow small businesses to accept digital payments and conduct financial transactions more efficiently. These platforms can also generate digital transaction records that help financial institutions assess borrowers' creditworthiness.

Several studies included in the review report that digital payment adoption is associated with improved business performance and increased productivity among small enterprises. By reducing transaction costs and expanding market access, digital financial services can enhance the efficiency and competitiveness of small businesses.

However, the impact of digital financial services on entrepreneurship depends on the broader business environment. Factors such as market access, regulatory frameworks, and access to complementary resources, including training and infrastructure, play critical roles in determining whether digital finance can effectively support business development.

Macroeconomic Implications of Digital Financial Services: Beyond household and enterprise-level outcomes, digital financial services may also influence broader macroeconomic development indicators. By improving the efficiency of financial systems, digital financial platforms can facilitate economic transactions, reduce market frictions, and promote economic growth.

Digital payment systems can increase transparency in financial transactions, which may help reduce corruption and improve tax collection in some contexts. Increased digitalisation of financial transactions can also enhance financial sector development by integrating previously informal economic activities into formal financial systems.
Some cross-country studies suggest that greater adoption of digital financial services is associated with higher levels of financial sector development and economic growth. However, the strength of this relationship varies across countries and depends heavily on the quality of regulatory institutions and financial infrastructure.

Digital Inequality and the Gender Gap: Despite the promising potential of digital financial services, this review highlights several challenges related to digital inequality. One of the most important concerns is the persistence of digital divides across socioeconomic groups.

Individuals living in rural areas or low-income communities may have limited access to mobile technology, reliable internet connectivity, or electricity. These infrastructure constraints can restrict the reach of digital financial services and limit their impact on economic development.

The digital gender gap represents another critical challenge. Women in many developing countries are less likely to own mobile phones or access internet services compared with men. This disparity may limit women's ability to benefit from digital financial platforms and reduce the inclusiveness of digital finance initiatives.
Addressing these inequalities requires targeted policy interventions aimed at expanding digital infrastructure, improving digital literacy, and promoting gender-sensitive financial inclusion strategies.

7. Policy Implications

The findings of this study have several important implications for policymakers and development practitioners.
Firstly, expanding digital financial infrastructure should be a priority for governments seeking to promote financial inclusion and economic development. Investments in mobile network coverage, internet connectivity, and digital payment systems can significantly improve access to financial services.

Secondly, policymakers should focus on integrating digital finance with broader financial inclusion strategies. Digital platforms should complement rather than replace traditional financial institutions. Hybrid financial ecosystems that combine digital innovation with traditional banking services may provide the most effective pathway for inclusive financial development.

Thirdly, digital financial inclusion initiatives should be accompanied by financial literacy and digital literacy programs. Ensuring that individuals understand how to use digital financial services safely and effectively is essential for maximising their economic benefits.

Fourthly, regulatory frameworks must be strengthened to address issues related to consumer protection, data privacy, and cybersecurity. Effective regulation can help build trust in digital financial systems and encourage broader adoption of digital financial services.

8. Limitations and Future Research

While this study provides a comprehensive synthesis of empirical research on digital financial services and economic development, several limitations should be acknowledged.

Firstly, existing studies vary significantly in terms of methodologies, data sources, and outcome indicators, which may affect the comparability of findings across contexts.

Secondly, many studies focus primarily on mobile money services, while other forms of digital finance, such as fintech lending platforms, blockchain-based financial services, and digital investment platforms, have received relatively less attention in the academic literature.

Thirdly, most studies examine short- to medium-term outcomes, making it difficult to assess the long-term economic impacts of digital financial inclusion.

Future research should therefore explore the long-term developmental implications of digital financial technologies and examine how emerging financial innovations interact with broader economic and institutional factors.

Overall, the findings of this systematic review indicate that digital financial services have significant potential to promote financial inclusion and support economic development in low- and middle-income countries. By expanding access to financial services, improving household financial resilience, and facilitating entrepreneurship, digital financial technologies can contribute to more inclusive and efficient financial systems.

However, the developmental impact of digital finance depends heavily on the broader institutional environment, including infrastructure development, regulatory frameworks, and policies aimed at addressing digital inequalities. Policymakers and development institutions must therefore adopt comprehensive strategies that combine technological innovation with inclusive economic policies to fully harness the potential of digital financial services for sustainable development.

9. Conclusion and Policy Recommendations

9.1 Conclusion

This study conducted a systematic review of empirical research examining the relationship between digital financial services (DFS) and economic development in low- and middle-income countries. The review synthesised evidence from multiple studies across diverse geographic contexts and research methodologies to assess how digital financial technologies influence financial inclusion, household welfare, entrepreneurship, and broader economic development outcomes.

The findings indicate that digital financial services have significantly expanded access to financial services for previously underserved populations. Mobile-based financial platforms, digital payment systems, and online financial applications have reduced the barriers associated with traditional banking systems, enabling millions of individuals to participate in formal financial activities. Innovations such as the mobile money platform M-Pesa demonstrate how digital financial technologies can rapidly increase financial inclusion in environments where traditional financial infrastructure is limited.

The evidence also suggests that digital financial services contribute to improvements in household welfare and financial resilience. Access to digital financial platforms enables households to receive remittances more efficiently, store funds securely, and manage financial shocks through improved risk-sharing mechanisms. These benefits are particularly important in developing economies where households often rely on informal income sources and face high levels of economic uncertainty.

In addition to household-level impacts, digital financial services play an important role in supporting entrepreneurship and small business development. Digital payment systems allow small enterprises to conduct transactions more efficiently, reach broader markets, and maintain financial records that can facilitate access to credit. These developments can contribute to business growth, employment generation, and local economic development.

At the macroeconomic level, digital financial services may also contribute to improved economic efficiency by reducing transaction costs, increasing financial transparency, and strengthening financial sector development. However, the magnitude of these effects varies across countries and depends on institutional factors such as regulatory frameworks, financial literacy, and technological infrastructure.

Despite these positive outcomes, the review highlights several challenges associated with digital financial inclusion. Infrastructure limitations, digital literacy gaps, and unequal access to technology can restrict the reach of digital financial services. Moreover, the persistence of the digital gender gap may limit the ability of digital financial innovations to promote inclusive economic development unless targeted efforts are made to address gender-based disparities in digital access.

Overall, the findings suggest that digital financial services have strong potential to support inclusive economic development in low- and middle-income countries. However, digital finance alone cannot fully address structural barriers to economic development. The effectiveness of digital financial services depends on supportive institutional environments, regulatory frameworks, and complementary policies that promote financial inclusion and digital literacy.

9.2 Policy Recommendations

Based on the findings of this systematic review, several policy recommendations can be proposed to enhance the developmental impact of digital financial services:

1. Expand Digital Financial Infrastructure: Governments should prioritise investments in digital infrastructure, including mobile network coverage, broadband internet access, and reliable electricity supply. Digital financial services depend heavily on technological infrastructure, and limited connectivity in rural or underserved areas can restrict the accessibility of digital financial platforms. Public–private partnerships between governments, telecommunications providers, and financial institutions can help accelerate the expansion of digital financial infrastructure.
2. Promote Inclusive Digital Financial Ecosystems: Policymakers should focus on building inclusive digital financial ecosystems that integrate banks, mobile network operators, fintech firms, and payment service providers. Collaborative regulatory frameworks can encourage innovation while ensuring interoperability between different financial platforms.
Interoperable payment systems allow users of different financial service providers to conduct transactions seamlessly, thereby improving the efficiency and accessibility of digital financial services.
3. Strengthen Financial and Digital Literacy: Access to digital financial services must be accompanied by financial literacy and digital literacy programs to ensure that individuals can use digital financial tools safely and effectively. Educational initiatives should focus on building users' capacity to manage digital transactions, understand financial products, and recognise potential financial risks. Improved financial literacy can increase trust in digital financial platforms and encourage broader adoption among underserved populations.
4. Address the Digital Gender Gap: Reducing gender disparities in access to digital financial services should be a priority for policymakers. Programs that promote women's access to mobile technology, digital training, and gender-sensitive financial products can help ensure that women benefit equally from digital financial innovations. Efforts to expand women's digital financial inclusion may also contribute to broader development goals related to gender equality and economic empowerment.
5. Strengthen Regulatory and Consumer Protection Frameworks: Effective regulatory frameworks are essential for ensuring the safety and stability of digital financial systems. Governments and financial regulators should implement policies that address issues related to data privacy, cybersecurity, and consumer protection. Strong regulatory oversight can help build public trust in digital financial platforms and encourage responsible innovation within the fintech sector.
6. Encourage Evidence-Based Digital Finance Policies: Policymakers and development organisations should promote evidence-based approaches to digital financial inclusion. Continuous monitoring and evaluation of digital finance initiatives can help identify successful models and improve policy design. Future research should focus on the long-term impacts of digital financial services on economic development and examine how emerging financial technologies influence financial inclusion and economic productivity.

Final Remarks

In conclusion, digital financial services represent one of the most significant financial innovations of the past two decades and have the potential to transform financial systems in developing countries. By expanding financial inclusion, improving economic resilience, and supporting entrepreneurial activity, digital financial technologies can contribute to more inclusive and efficient economies.

However, realising the full potential of digital finance requires coordinated efforts by governments, financial institutions, technology providers, and development organisations. Policies that combine technological innovation with investments in infrastructure, education, and regulatory capacity will be essential for ensuring that digital financial services contribute to sustainable and inclusive economic development in low- and middle-income countries.

Disclaimer: The authors acknowledge the use of ChatGPT as an editorial aid to sharpen the language, strengthen the structure, and enhance the content without diluting authorial intent.

References

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2022). *The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. Washington, DC: World Bank.

Suri, T. & Jack, W. (2016). The long-run poverty and gender impacts of mobile money. *Science*, 354(6317), 1288–1292.

Jack, W. & Suri, T. (2014). Risk sharing and transactions costs: Evidence from Kenya's mobile money revolution. *American Economic Review*, 104(1), 183–223.

Levine, R. (2005). Finance and growth: Theory and evidence. In *Handbook of Economic Growth* (Vol. 1). Elsevier.

Ozili, P. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review*, 18(4), 329–340.

Higgins, J. P. T., Thomas, J., Chandler, J., Cumpston, M., Li, T., Page, M., & Welch, V. (2019). *Cochrane handbook for systematic reviews of interventions* (2nd ed.). Wiley.

Page, M. J., McKenzie, J., Bossuyt, P., Boutron, I., Hoffmann, T., Mulrow, C., et al. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71.

Thomas, J. & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, 8, 45.