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The Role of Digital Financial Services in Shaping the Modern Economy

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ABSTRACT

This study examines the significant role of Digital Financial Services (DFS) in shaping the modern economy, focusing on their influence on financial inclusion, economic development, and technological advancement. By leveraging mobile and online platforms, Digital Financial Services has greatly expanded access to essential financial services, especially among underserved populations in developing regions. Although this holds considerable promise for driving economic growth and enhancing financial inclusion, their rapid growth presents challenges such as regulatory issues, cybersecurity risks, and concerns about data privacy. The research is based on primary data collected through structured questionnaires distributed to respondents, complemented by a review of existing literature. Findings show that mobile banking and digital wallets are the most used digital financial services, with daily usage being the most prevalent. While respondents recognize the positive effects of this service on economic inclusion, barriers such as security concerns, high transaction fees, and limited internet access continue to hinder broader adoption. Trust in digital financial services surpasses that in traditional banking, with factors like security features and service reputation playing crucial roles in fostering user confidence. The study concludes by offering recommendations for service providers, including improving security measures, reducing transaction fees, and expanding services in underserved areas, to enhance digital financial services adoption and accessibility.

Key Words: *Digital Wallet; Cybersecurity; Financial Inclusion; FinTech; Blockchain*

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INTRODUCTION

Digital financial services (DFS) have emerged as a central force in reshaping the modern economy, revolutionizing how individuals and businesses access essential financial products. By leveraging mobile and online platforms, it has significantly expanded financial inclusion, particularly in developing regions where many people remain unbanked (*Rana, Luthra, & Rao, 2020; Gomber, Koch, & Siering, 2017; Reisoglu & Çebi, 2024*). These services enhance access to a wide range of financial offerings, including banking, payments, savings, lending, and insurance, while also stimulating economic growth by increasing transaction efficiency and enabling participation in global markets. Despite these advancements, the rapid growth of this service presents challenges such as regulatory concerns, cybersecurity vulnerabilities, and data privacy issues. (*Reisoglu & Çebi, 2024; Gomber, Koch, & Siering, 2017; Biliavskiy et al., 2024*). This study aims to explore the critical role it plays in driving economic development, expanding financial inclusion, and contributing to the evolution of the global financial ecosystem. As the world becomes more interconnected, the impact of this service in promoting financial inclusion, economic progress, and global trade continues to grow. These services not only facilitate seamless financial transactions but also boost productivity and encourage economic growth. Additionally, it has fostered innovation by supporting new business models, encouraging entrepreneurship, and lowering costs for both consumers and businesses. However, the swift expansion of this brings along risks that must be addressed. Issues such as regulatory gaps, cybersecurity threats, and data privacy concerns need to be tackled to ensure the long-term sustainability and security of these services. As the digital economy continues to evolve, understanding the full impact of digital financial services on the modern economy is crucial for policymakers, businesses, and financial institutions. This research aims to examine the role of digital financial services in shaping the economy, with a focus on their effects on financial inclusion, economic growth, and technological innovation. Furthermore, it will address the challenges and risks tied to digital financial services and propose strategies for maximizing their potential while managing these risks.

REVIEW OF LITERATURE

The writing highlights the transformative impact of Fintech and Advanced Monetary Administration (DFS) on today's money needs. The development of fintech's such as Reisoglu and Cebi (2024), versatile pricing, blockchain and robot directors has led to more open and successful budget management, but always at

risks that amount to cybersecurity and clear challenges. Rasul (2024) emphasizes that advanced progress accelerates globalization and enables a small number of companies but maintains risks such as job declarations and cyberattacks. Josyula and Master examine how financial technology (FinTech) leverages artificial intelligence (AI) to efficiently manage financial accounts, facilitate peer-to-peer (P2P) transactions, and provide personalized and secure financial services, including advanced credit and loan management systems. Rana et al. (2020) recognize the challenges associated with the adoption of digital financial services (DFS) in emerging economies. These challenges are largely linked to inadequate financial infrastructure, limited digital literacy, and insufficient data coverage in many markets. The integration of DFS has significantly improved financial inclusion by facilitating seamless global transactions and enhancing internal financial mobility. However, as digital financial systems continue to expand, there remain critical concerns regarding security, privacy, and regulatory compliance. Over the past few decades, the digital economy has grown rapidly, fundamentally transforming business operations, market presence, and interactions with customers. Zaborskyi, Shaposhnikov, and Belakovskiy (2024) examined a key part of the computer-aided economy in maintaining imaginative trading areas, imposing urgent innovative communities and trade methods and impacts on businesses. Hung and Trung (2024) thread how AI, blockchain and vast amounts of information improve and homogenize your ability to livelihood to acquire household chores even though challenges such as disparities and optimized management requirements are needed. Challoumis (2024) highlights its impact on capitalist operations, highlights of computerization, and legitimate regimes, but also moral differences. Dirk Gomber, Jens Koch, and Michael Siering (2017) examine how FinTech innovations, such as peer-to-peer (P2P) lending and digital payment systems, disrupt traditional banking models and transform conventional financial services. Zagrebelnaya (2024) deals with the inevitability of blockchain and AI for productive development. Warnings relating to cybersecurity risks. Rasti et al. (2024) examine how FinTech is being reshaped through innovations such as artificial intelligence (AI) and blockchain technology, while also highlighting ongoing challenges related to security, transparency, and regulatory compliance.

OBJECTIVES

- Explaining the Challenges and Barriers to the Adoption of Digital Financial Services
- To understand the impact of Digital Financial Services on the Economy

- To examine Security and Trust in Digital Financial Services
- To assess the unborn Trends and Recommendations for Digital Financial Services

METHODOLOGY

The present exploration study is grounded on both Primary and Secondary data sources. The secondary data sources were used to review former exploration studies on the part of Digital Financial Services in Shaping the Modern Economy, through being literature. still, this study substantially relies on primary data.

Sample Size Calculation (Yamane Formula)

The sample size for the study is determined using the Yamane (1967) formula:

$$n = N / (1 + N(e)^2)$$

Where:

n = Sample size

N = Population size

e = Margin of error

Total Population (N) = 150

Margin of Error (e) = 5% = 0.05

Calculation:

$$n = 150 / (1 + 150(0.05)^2)$$

$$n = 150 / (1 + 150 \times 0.0025)$$

$$n = 150 / (1 + 0.375)$$

$$n = 150 / 1.375$$

$$n \approx 109$$

The Respondent available only 104 This is **statistically acceptable** at 5% error level. An aggregate of 104 customer responses were collected using a structured questionnaire developed through Google Forms. The sample size was determined based on convenience sampling, considering time constraints and accessibility of respondents. Data were collected over a period of three months through virtual mode from users in North Karnataka. The study included both users of digital

financial services and non-users; non-users are defined as individuals who have access to banking facilities but do not actively use digital financial services such as mobile banking, UPI, or online payment platforms.

Analysis of the Data

Table 1: Distribution of Study Samples by Gender, Age, Occupation, and Educational Status, Locality

<i>Variables</i>	<i>Characteristics</i>	<i>f</i>	<i>%</i>
Gender	Male	49	47.11
	Female	55	52.88
	Third Gender	00	00.00
	Total	104	100
Age Group	Under 18	18	17.30
	18-25	22	21.15
	26-35	20	19.23
	36-45	23	22.11
	46- and above	21	20.19
	Total	104	100
Occupation	Student	33	31.73
	Professional	40	38.46
	Unemployed	26	25.00
	Other	05	04.80
	Total	104	100
Education and Qualification	High School	15	14.42
	PUC (<i>Instead use 12th</i>)	36	34.61
	Undergraduate Degree	25	24.03
	Postgraduate Degree	19	18.26
	Other	09	08.65
	Total	104	100
Locality	Urban	28	26.92
	Semiurban	42	40.38
	Rural	34	32.69
	Total	104	100

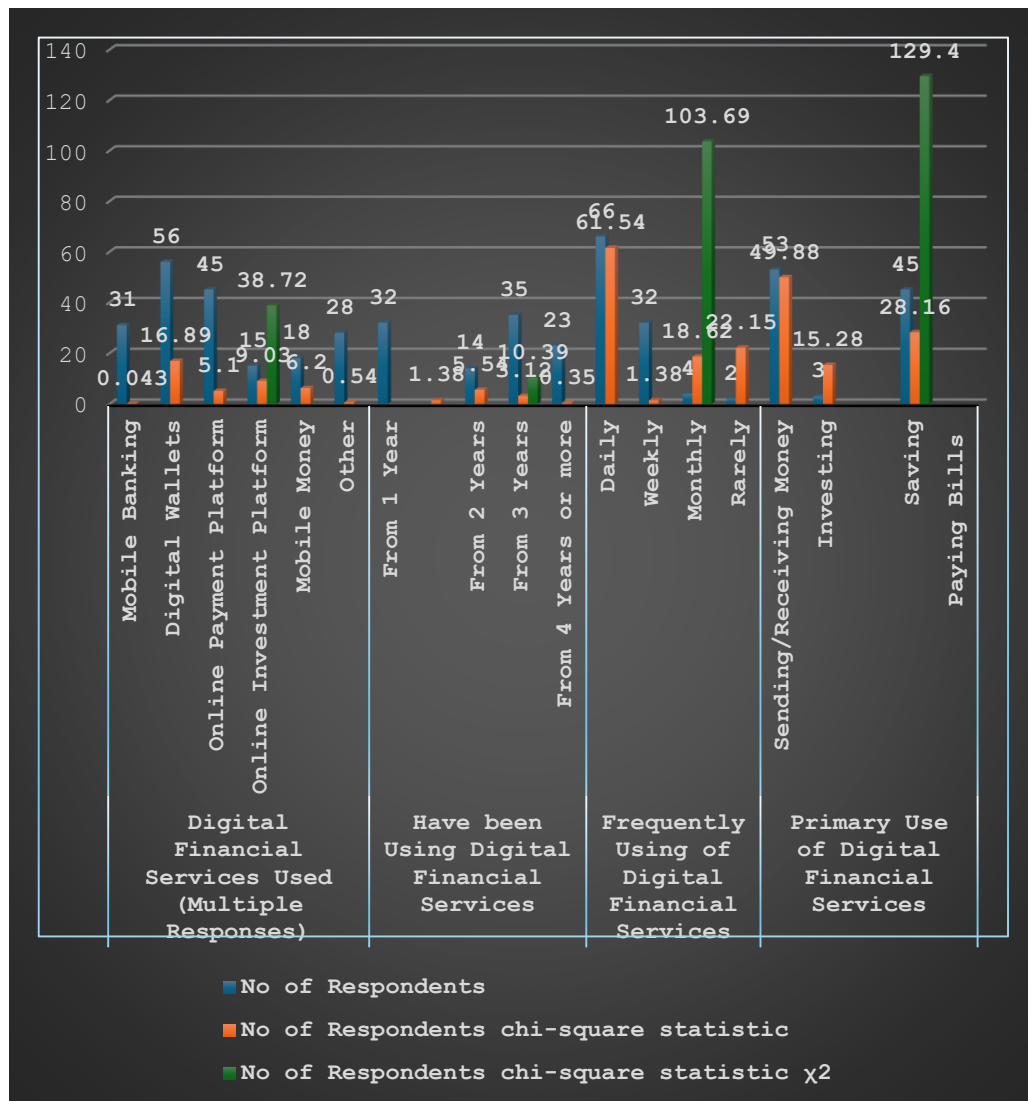
(Source: Primary Data)

The study sample is balanced in terms of gender, with 47.11 manly and 52.88 womanish actors. Age-wise, the maturity falls within the 36- 45(22.11) and 18-25(21.15) age groups, indicating a focus on youngish to middle-aged individualities. In terms of occupation, professionals (38.46) and scholars (31.73) make up the largest groups, with a significant portion (25) jobless. Educationally, the sample shows a high position of education, with utmost repliers holding PUC qualifications (34.61) or advanced. The study also includes a different geographic representation, with further actors from semiurban (40.38) areas, followed by pastoral (32.69) and civic (26.92) locales, icing a broad demographic blend.

Table 2: Usage of Digital Financial Services Among Respondents

<i>Variables</i>	<i>Factors</i>	<i>No of Respondents</i>	<i>chi-square statistic</i>	<i>χ^2 (n-1) d.f</i>
Digital Financial Services Used (Multiple Responses)	Mobile Banking	31	0.043	38.72
	Digital Wallets	56	16.89	
	Online Payment Platform	45	5.1	
	Online Investment Platform	15	9.03	
	Mobile Money	18	6.2	
	Other	28	0.54	
Have been Using Digital Financial Services	From 1 Year	32	1.38	10.39
	From 2 Years	14	5.54	
	From 3 Years	35	3.12	
	From 4 Years or more	23	0.35	
Frequently Using of Digital Financial Services	Daily	66	61.54	103.69
	Weekly	32	1.38	
	Monthly	4	18.62	
	Rarely	2	22.15	
Primary Use of Digital Financial Services	Sending/Receiving Money	53	49.88	129.4
	Investing	3	15.28	
	Saving Paying Bills	45	28.16	
	Shopping online	3	15.28	
	Other	0.00	20.8	

(Source: Primary Data)

Graph 1: Distribution of Digital Financial Services Usage


Mobile banking is the most used digital financial service (DFS), followed by digital wallets and online payment platforms. Chi-square statistics indicate that mobile banking and digital wallets have a strong relationship with the data, while other platforms like online investment and mobile money are used less frequently. Most respondents have used digital financial services for 1 year, with daily usage being the most common (66 respondents), reflecting strong reliance on these services.

Sending/receiving money is the primary use of digital financial services, followed by bill payments. The Other category had no respondents, but its high chi-square value suggests potential data anomalies.

Table 3: Impact of Digital Financial Services on the Economy

<i>Variables</i>	<i>Factors</i>	<i>No of Respondents</i>	<i>chi-square statistic</i>	<i>$\chi^2(n-1)$ d.f</i>
Digital financial services influenced economic inclusion	High Influence	18	8.02	74.86
	Medium Influence	76	49.29	
	Low Influence	10	17.55	
Digital financial services have helped bridge the gap between developed and developing economies	Yes	57	14.37	27.92
	No	34	0.013	
	Maybe	13	13.54	
Digital financial services are for the growth of small and medium-sized businesses (SMEs)	Very Important	47	4.39	50.21
	Somewhat Important	56	13.14	
	Not Important	01	32.68	
Digital financial services improve financial accessibility for people in rural or underserved areas	Yes	83	67.43	101.83
	No	14	12.32	
	Maybe	07	22.08	

(Source: Primary Data)

Most respondents believe digital financial services (DFS) have a medium influence on economic inclusion, with a high chi-square value indicating strong agreement. A smaller group sees DFS as having a high impact, while a few perceive low influence. Regarding bridging the gap between developed and developing economies, the majority agree that DFS helps, with minimal opposition and some uncertainty. On the role of DFS in supporting small and medium-sized businesses (SMEs), most view it as either somewhat or very important. Only one respondent saw it as not important, but this appears to be an outlier. Lastly, a large majority believes DFS improves financial accessibility in rural and underserved areas, with a strong consensus, though some respondents remain uncertain.

Graph 2: Distribution of Digital Financial Services Impact

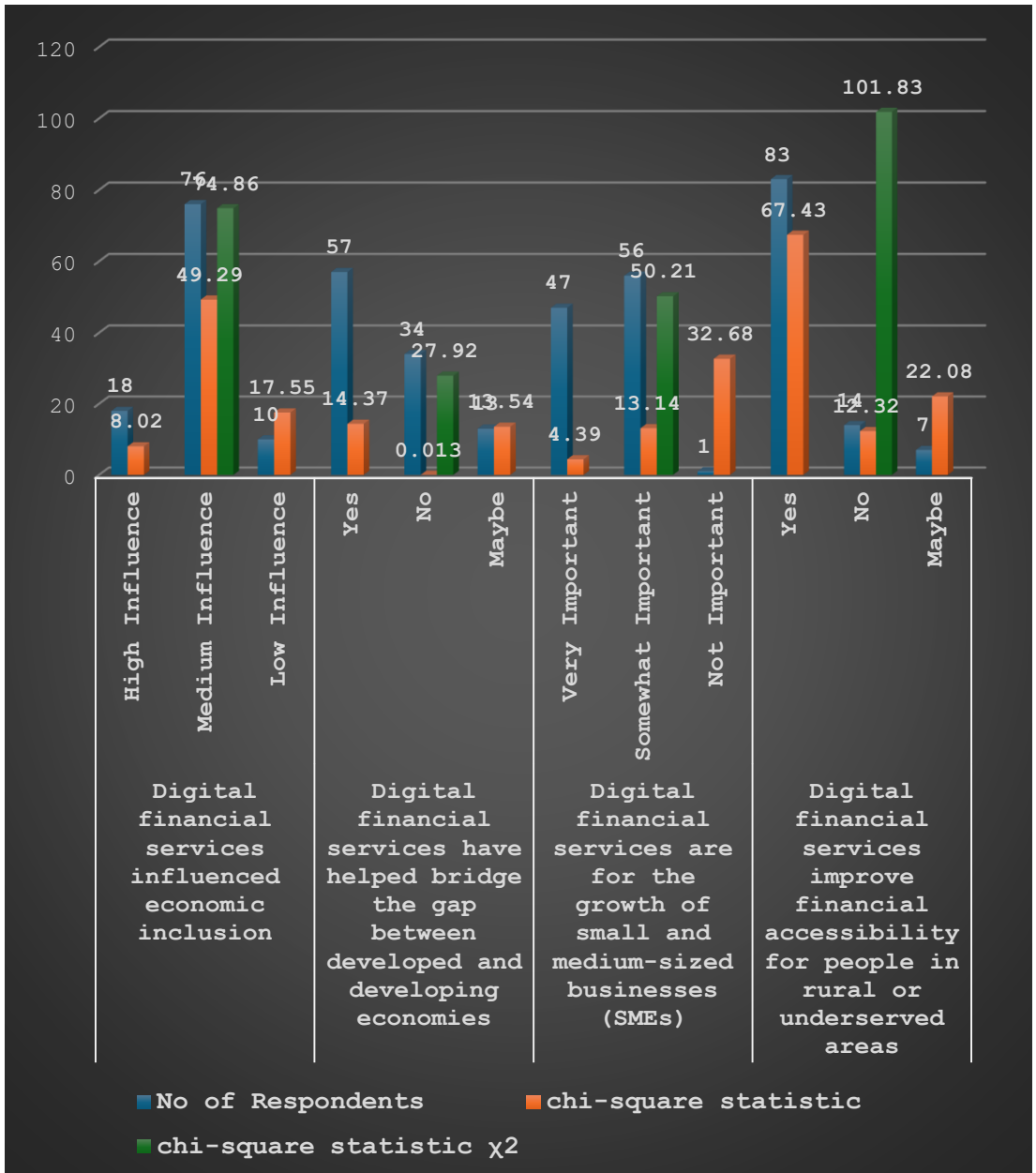


Table 4: Security and Trust in Digital Financial Services

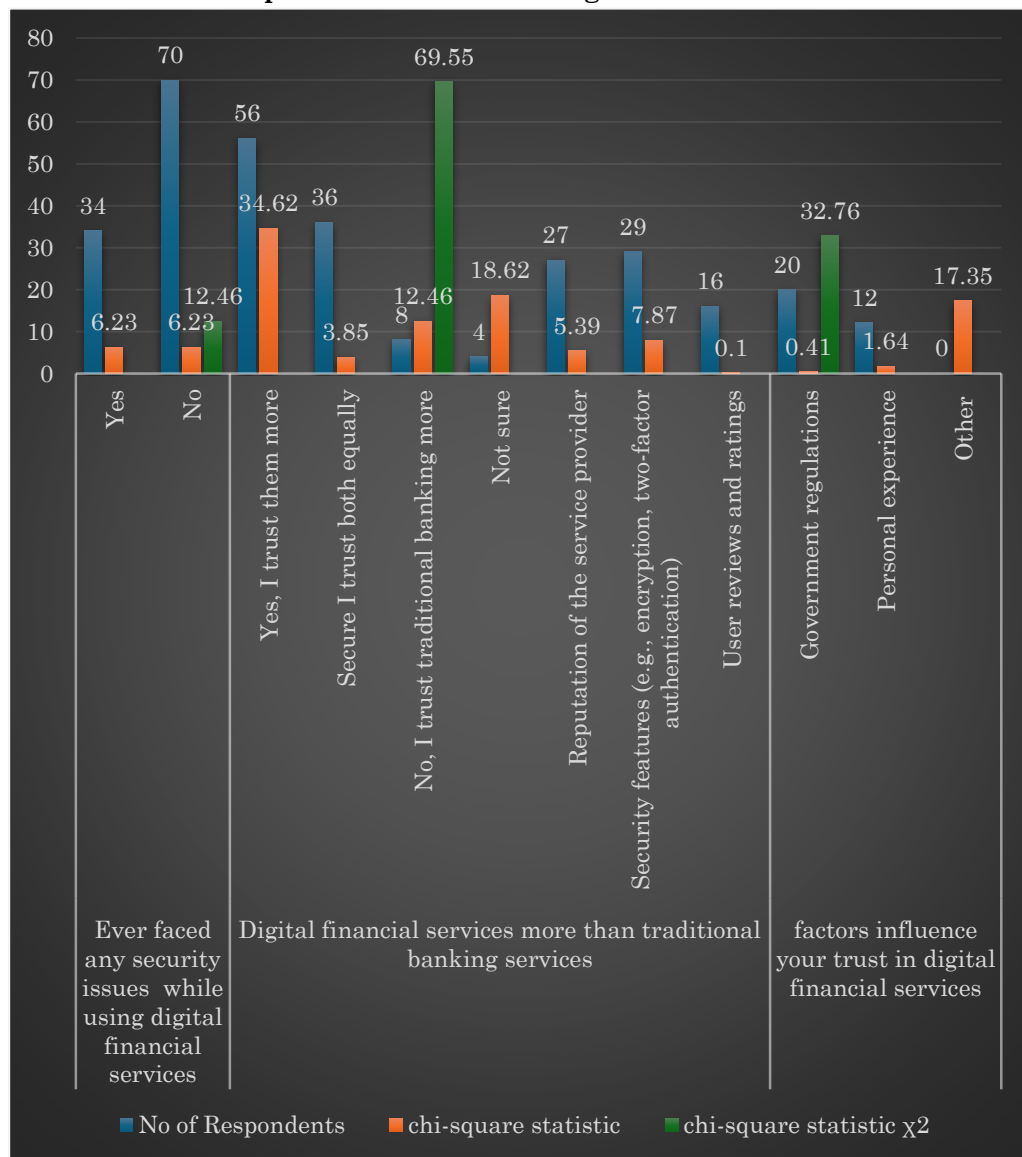
<i>Variables</i>	<i>Factors</i>	<i>No of Respo ndents</i>	<i>chi- square statistic</i>	$\chi^2(n-1)$ d.f
Ever faced any security issues (e.g., fraud, unauthorized transactions) while using digital financial services	Yes	34	06.23	12.46
	No	70	06.23	
Digital financial services more than traditional banking services	Yes, I trust them more	56	34.62	69.55
	Secure I trust both equally	36	03.85	
	No, I trust traditional banking more	08	12.46	
	Not sure	04	18.62	
Factors influence your trust in digital financial services	Reputation of the service provider	27	05.39	32.76
	Security features (e.g., encryption, two-factor authentication)	29	07.87	
	User reviews and ratings	16	0.10	
	Government regulations	20	0.41	
	Personal experience	12	01.64	
	Other	00	17.35	

(Source: Primary Data)

In terms of security, 32.69 % respondents reported issues like fraud or unauthorized transactions with DFS, but the majority (67.30% respondents) did not face such problems, indicating moderate concern. When comparing trust in DFS to traditional

banking, 53.84% respondents trust DFS more, while 7.69% trust traditional banking more, and 34.61% trust both equally. The results show a strong preference for DFS, but some uncertainty remains. Trust in DFS is mainly influenced by the reputation of the service provider and security features, while factors like user reviews, government regulations, and personal experience have less impact. The Other category showed a high chi-square value, possibly indicating data anomalies.

Graph 3: Distribution of Digital Financial Se



Services Security and Trust

Table 5: Challenges and Barriers to Adoption

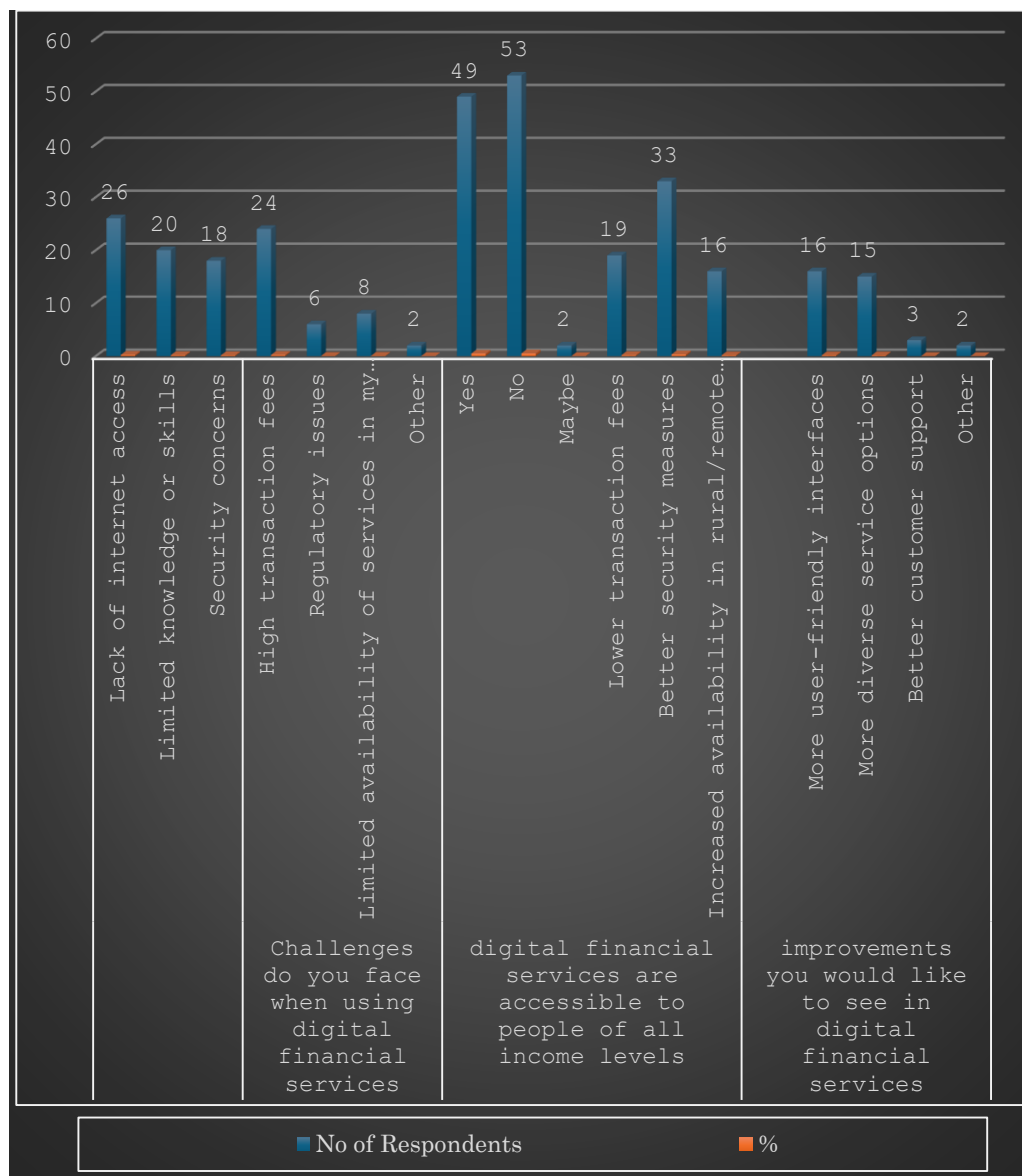
<i>Variables</i>	<i>Factors</i>	<i>No of Respondents</i>	<i>Percentage</i>
Challenges do you face when using digital financial services	Lack of internet access	26	25 %
	Limited knowledge or skills	20	19.23 %
	Security concerns	18	17.30 %
	High transaction fees	24	23.07 %
	Regulatory issues	06	05.7 %
	Limited availability of services in my region	08	07.69 %
	Other	02	01.92 %
	Total	104	100 %
Digital financial services are accessible to people of all income levels	Yes	49	47.11 %
	No	53	50.96 %
	Maybe	02	01.92 %
	Total	104	100 %
Improvements you would like to see in digital financial services	Lower transaction fees	19	18.26 %
	Better security measures	33	31.73
	Increased availability in rural/remote areas	16	15.38 %
	More user-friendly interfaces	16	15.38 %
	More diverse service options	15	14.42 %
	Better customer support	03	02.88 %
	Other	02	01.92 %
	Total	104	100%

(Source: Primary Data)

The main challenges faced by users of digital financial services include high transaction fees (23.07%), lack of internet access (25%), and security concerns (17.30%). A notable number also face issues due to limited knowledge or skills (19.23%). While most respondents believe DFS is not accessible to all income levels (50.96%), 47.11% feel they are accessible to everyone. Desired improvements in DFS focus on better security measures (31.73%) and lower transaction fees (18.26%).

Other improvements include more service availability in rural areas (15.38%), user-friendly interfaces (15.38%), and more diverse service options (14.42%).

Graph 4: Distribution of Digital Financial Services Challenges and Barriers



Findings

- The gender distribution is balanced, with a slight skew towards females (52.88%) and no responses from the third gender category, indicating a predominantly male and female sample.
- A relatively balanced age distribution with moderate concentrations in younger to middle-aged groups.
- A majority are working individuals and students, with a notable percentage unemployed. And the sample shows relatively high educational qualifications.
- There is a higher representation from semiurban regions, with a balanced distribution between rural and urban participants.
- Mobile banking (29.80% respondents) and digital wallets (53.84% respondents) are the most popular, with significant chi-square values indicating high usage.
- Most respondents (32) have used DFS for 1 year, with 35 using it for 3 years. Shorter durations are more common.
- Daily usage is dominant (66 respondents), with fewer using DFS weekly (32) or monthly (4).
- The main use is sending/receiving money (53 respondents), followed by paying bills (45). Other uses like investing and shopping online are less frequent.
- No respondents used the "Other" category, though it has a high chi-square value, suggesting potential data anomalies.
- Most respondents (76) believe DFS have a medium influence on economic inclusion, with 18 seeing high influence.
- 57 respondents think DFS help bridge the gap between developed and developing economies, while 34 disagree.
- 56 respondents find DFS somewhat important for SMEs, and 47 view them as very important.
- A majority (83 respondents) believe DFS improves accessibility in rural areas, with 14 disagreeing.
- 34 respondents reported facing security issues, while 70 did not.
- 56 respondents trust DFS more than traditional banking, 36 trust both equally, 8 trust traditional banking more, and 4 are unsure.
- Reputation (27 respondents), security features (29 respondents), and government regulations (20 respondents) are key factors influencing trust, while user reviews and personal experience have lower influence.
- The main challenges are the lack of internet access (25%), limited knowledge or skills (19.23%), and high transaction fees (23.07%).
- 47.11% believe DFS are accessible to all income levels, while 50.96% disagree.

- Most respondents want better security measures (31.73%), lower transaction fees (18.26%), and increased availability in rural areas (15.38%).

Suggestions

To improve digital financial services (DFS) adoption and usage, service providers should focus on enhancing security measures to address the concerns raised by 34 respondents who reported facing security issues. Reducing transaction fees and improving internet access, particularly in rural areas, will also increase accessibility. Providing better education and support for users with limited knowledge or skills can help overcome usage barriers. Expanding service availability in rural and underserved regions will ensure inclusivity, and creating more user-friendly interfaces will make DFS easier for people with varying levels of experience. Strengthening the reputation of service providers and emphasizing robust security features will further build trust among users.

CONCLUSIONS

The study reveals that mobile banking and digital wallets are the most widely used digital financial services (DFS), with daily usage being dominant. Sending/receiving money is the primary use, followed by bill payments. While most respondents view DFS as positively influencing economic inclusion and improving financial access in rural areas, security concerns and high transaction fees are significant barriers to adoption. Trust in DFS is higher than in traditional banking, with factors like reputation and security features playing a crucial role in building confidence. Challenges such as limited knowledge, lack of internet access, and regional service availability also hinder broader adoption. To improve DFS adoption, providers should focus on lowering transaction fees, enhancing security, expanding services in underserved areas, and increasing educational efforts to address user concerns and increase accessibility.

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