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Bridging Horizons: The Symphony of Digital Banking and Financial Inclusion in the Gambia

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Abstract

This study examined the critical nexus between digital banking and financial inclusion in The Gambia, focusing on assessing the current state of digital banking services, identifying factors driving their adoption, and evaluating their impact on financial inclusion. A descriptive cross-sectional research design was adopted, using stratified sampling to ensure comprehensive stakeholder representation, and the findings were on the three hypotheses of the study. First, Hypothesis 1 revealed a strong positive correlation between digital banking accessibility and user adoption rate (0.877), significantly impacting financial inclusion (0.770). Moreover, mobile and internet banking showed a positive, though less pronounced, correlation with financial inclusion (0.423). Therefore, these findings indicate that improved digital banking infrastructure quality correlates positively with financial inclusion, underscoring the importance of enhancing accessibility and promoting user adoption. Subsequently, Hypothesis 2 examined the impact of socioeconomic factors, including income, education, and age, on digital banking services. With an R-value of 0.856 and an R square of 0.733, regression analysis demonstrated the importance of socioeconomic factors in determining the adoption of digital banking, which is 73.3% dependent on factors like employment status, education level, and income. Hence, addressing socioeconomic disparities is essential for the broader adoption of digital banking services. Lastly, Hypothesis 3 investigated the influence of digital banking services on financial inclusion. The model-fitting information showed that employment status significantly influenced financial inclusion, while other factors like age, income, and education exhibited limited statistical significance. Additionally, the limited availability of digital wallets and restricted payment transactions negatively impact financial inclusion, suggesting that improving these aspects is crucial for advancing financial inclusion efforts. The study concluded that improving accessibility to digital banking, addressing socioeconomic disparities, and enhancing digital payment options are critical steps in advancing financial inclusion in The Gambia.

Key words: Digital banking; Financial inclusion; Economic development; Financial services; Digital infrastructure; The Gambia

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1. INTRODUCTION

Digital banking has transformed the global financial scene, especially in developing countries with inadequate traditional banking infrastructure. In The Gambia, the potential for digital banking to achieve financial inclusion is particularly notable. Financial inclusion—the ability of individuals and enterprises to access meaningful and cheap financial products and services—is critical for driving economic growth, decreasing poverty, and promoting social fairness (Central Bank of The Gambia [CBG], 2019). Despite this potential, many of the Gambian population remain unbanked or underbanked, with little access to formal financial services. According to the Global Forum on Remittances, Investment, and

Development (2023), approximately 30% of Gambians have access to formal financial services, revealing a serious gap in the financial ecosystem.

Furthermore, despite the growing acceptance of digital banking as a viable tool for improving financial inclusion, The Gambia has several hurdles that impede its advancement. Inadequate digital infrastructure, poor levels of financial literacy, and widespread distrust of digital financial services are all significant impediments (Kobayashi, 2023). Additionally, while digital financial services have gained popularity in many countries, their adoption in The Gambia is still limited due to worries about cybersecurity, data privacy, and a lack of awareness about the benefits of digital banking (Nnaomah, Aderemi, & Olutimehin et al., 2024). As a result, there is an urgent need to investigate the role of digital banking in addressing these issues and increasing financial inclusion among Gambians. While much research has been conducted on digital banking and financial inclusion around the world (Cnaan, Scott, Heist, & Moodithaya, 2023; Kaur, 2021; Guerra-Leal, Arredondo-Trapero, & Vázquez-Parra, 2021; Lottu, Abdul, & Daraojimba et al., 2023), there is a notable lack of empirical studies that specifically examine the Gambian context. The majority of existing literature focuses on countries with more established financial systems, leaving a gap in understanding how digital banking can be effectively implemented in developing economies such as The Gambia (Ehimuan, Anyanwu, & Olorunsogo et al., 2024; Kaur, 2021). Moreover, much of the study fails to account for the specific socioeconomic and cultural aspects that may influence the adoption and use of digital banking services in The Gambia. This paucity of localised research underscores the significance and the need for conducting a complete study considering the specific challenges and opportunities in the Gambian financial sector. As a result, this study seeks to fill these gaps in the literature by examining the relationship between digital banking and financial inclusion in The Gambia. This research's central thesis is that digital banking can significantly enhance financial inclusion in The Gambia when effectively implemented. By examining the factors influencing digital banking adoption and assessing its impact on financial access, this study aims to generate actionable insights that can shape policy decisions and guide financial institutions in promoting greater financial inclusion. Specifically, the study will contribute to the larger conversation on financial inclusion and digital banking by presenting proof of how tailored digital financial solutions can address the obstacles encountered in underdeveloped countries. The following objectives served as the foundation for this research: to assess the current state of digital banking services in The Gambia, to examine the factors driving digital banking adoption, and to assess how digital banking affects financial inclusion. Based on the aforementioned objectives, this study formulated the following hypotheses: Hypothesis 1 (H1): The current state of digital banking services in The Gambia correlates with the level of financial inclusion among its population; Hypothesis 2 (H2): Socioeconomic factors (such as income, education, and age) significantly influence the adoption of digital banking services in The Gambia; Hypothesis 3 (H3): Digital banking services have a significant impact on financial inclusion in The Gambia. By addressing these gaps in the research and focusing on The Gambia's specific situation, this study hopes to give significant insights that can drive policymaking and strategic actions targeted at increasing financial inclusion through digital banking. Understanding the characteristics of digital banking in The Gambia is critical for improving individual livelihoods and supporting the country's overall economic development. As The Gambia aims to expand the proportion of individuals with access to formal financial services to 70% by 2025 (Alliance for Financial Inclusion [AFI], 2023), this study will contribute timely recommendations to the continuing efforts to achieve that objective.

2. THE INTERSECTION OF DIGITAL BANKING, FINANCIAL INCLUSION, AND ECONOMIC DEVELOPMENT IN THE GAMBIA

The convergence of digital banking, financial inclusion, and economic development is inextricably linked, particularly in developing countries like The Gambia. Firstly, digital banking accelerates the country's socioeconomic growth by delivering financial services via digital platforms such as mobile apps, internet banking, and ATMs. By minimising the requirement for physical banking infrastructure, digital banking has emerged as a possible solution to the low levels of financial inclusion found in many developing nations, including The Gambia. According to Kobayashi (2023), digital banking has the potential to reach under-served groups that have traditionally been excluded from the official financial sector due to geographical, economic, or infrastructural limitations. Financial inclusion remains a critical issue in The Gambia, where a large section of the population lacks access to formal financial services such as savings accounts, loans, and insurance. According to data from the Global Forum on Remittances, Investment, and Development (2023), approximately 30% of Gambians have access to formal financial services, leaving the vast majority under-banked. This limited access to financial services reduces economic prospects for individuals and small enterprises, which are critical for long-term development. Furthermore, as CBG (2019) points out, financial inclusion entails providing access and ensuring that financial services are accessible, relevant, and responsive to the needs of underprivileged communities. According to Nnaomah et al. (2024), one

of the most significant impediments is a lack of suitable digital infrastructure, particularly in provincial areas where internet usage and mobile network coverage are low. Furthermore, a lack of financial literacy poses a substantial barrier to the widespread adoption of digital financial services. Many Gambians are apprehensive about using digital banking services because they lack a thorough understanding of how it works, including concerns about cyber-security, fraud, and data protection. Furthermore, trust in digital banking is poor. According to research, a general lack of faith in traditional financial institutions and worries about the security of online transactions frequently hinder the adoption of digital financial services (Ehimuan et al., 2024). This skepticism and socioeconomic issues, such as income disparities and educational levels, exacerbate efforts to enhance financial inclusion through digital methods. As a result, despite developments in digital banking, adoption of these services remains low, particularly among lower-income and less-educated parts of the population. Moreover, financial inclusion is essential for promoting economic development. Integrating more individuals and enterprises into the official financial system increases access to credit, savings, insurance, and other financial instruments necessary for investment and economic growth. According to Cnaan et al. (2023), financial inclusion helps to reduce poverty by allowing people to save, invest, and manage risks more efficiently. It also enables small firms, which are critical to The Gambia's economy, to obtain the credit and financial resources they require for growth and innovation. In this perspective, digital banking is viewed as a critical enabler of financial inclusion and, by extension, economic development. According to Kaur (2021), digital financial services lower transaction costs and improve financial intermediation efficiency, enabling more people to engage in the economy. As a result, boosting access to digital financial services in The Gambia might have a substantial economic impact, particularly on underprivileged people. By eliminating financial access obstacles, digital banking can promote entrepreneurship, increase income-generating activities, and contribute to the country's overall economic stability (Lottu et al., 2023). As a result, as The Gambia works to accelerate its economic development, the convergence of digital banking and financial inclusion becomes more crucial. The Gambia's Central Bank (CBG) has acknowledged the potential of digital financial services to drive economic growth and has implemented several changes to improve the country's financial infrastructure (CBG, 2019). However, fulfilling this promise involves addressing the barriers to the widespread acceptance of digital financial services. In addition, Guerra-Leal et al. (2021) underline the importance of a coordinated approach that includes public and private sector partnerships to establish strong digital infrastructure, increase financial literacy, and foster trust in digital financial services. Furthermore, targeted governmental measures are required to ensure that The Gambia's most vulnerable people have access to and can afford digital financial services. According to AFI (2023), financial inclusion is an important part of the country's development plan, with the goal of raising the percentage of individuals who have access to formal financial services to 70% by 2025. In conclusion, The Gambia's socioeconomic challenges could be addressed through digital banking, financial inclusion, and economic development. While digital banking presents innovative approaches to boost financial inclusion, its success depends on overcoming infrastructure, educational, and trust issues. The Gambia may achieve significant economic growth, alleviate poverty, and promote better social fairness if it continues to improve digital financial inclusion.

2.1 Theoretical Underpinning

This Digital Banking and Financial Inclusion study in The Gambia is theoretically underpinned by Rogers' (1962) Diffusion of Innovations (DOI) Theory. The DOI theory clarifies how innovations—like digital banking systems—are embraced and disseminated over time within a social system. It distinguishes the traits of inventions from the social elements influencing their reception. These characteristics include relative advantage, compatibility, complexity, trialability, and observability, all affecting the rate at which an innovation is accepted (Rogers, 2003).

The key premise of the DOI theory is that the diffusion of an innovation is a process by which the innovation is transmitted along particular channels over time among the members of a social system. This approach holds that people's time of adoption determines their classification into several groups: innovators, early adopters, early majority, late majority, and laggards. Every group contributes differently to the diffusion process; early adopters often act as opinion leaders, promoting more general acceptance. Innovations that are useful, in line with current ideals, and easy to understand and use are more likely to be quickly adopted. This theoretical framework is especially useful for understanding how people use digital banking in The Gambia, a developing country where cultural and socioeconomic issues play a significant role. *In the Gambian context, characteristics such as the compatibility of digital banking with existing financial practices, the perceived ease of use, and the relative advantage over traditional banking methods are crucial in determining the adoption rate (Nnaomah et al., 2024; Kobayashi, 2023). By applying the DOI theory, this study investigates how digital banking innovations spread within different segments of Gambian society, particularly regarding how communication channels raise awareness and how social systems influence adoption.*

This framework also makes it possible to divide the Gambian people into different groups based on their likelihood of using digital banking. This classification is

very important for making targeted measures to improve financial inclusion (Ehimuan et al., 2024). For instance, identifying innovators and early adopters can help shape policies that speed up the adoption of digital banking by meeting their unique needs and using their community influence.

Digital banking is not just about how individuals use new technology—the DOI theory's application extends into broader debates on poverty and inequality in developing countries. Examine the Gambia, for instance; by following how digital banking innovations have spread there, this research encourages us to reconsider how digital shifts might help ease economic divides. Generally speaking, many views digital banking as a way to boost financial inclusion, directly lowering poverty and driving economic empowerment. Empirical findings from this study generally hint that digital banking might help promote the financial void in communities that do not get enough from traditional banks. Take the Gambia as one example—where access to formal financial services remains, in most cases, noticeably limited—indicating that these modern financial tools could be a real game changer (Central Bank of The Gambia, 2019).

However, the DOI theory has been criticized, especially for not being able to work in all kinds of social and cultural situations. Some critics claims that the theory makes adoption too easy by focusing too much on things that affect each person. At the same time, institutional barriers—such as infrastructural deficits, regulatory challenges, and financial literacy—also greatly impede adoption (Kobayashi, 2023). *In the Gambian context, these barriers are substantial. Issues such as inadequate digital infrastructure, low digital literacy, and a lack of trust in financial institutions pose significant challenges to the widespread adoption of digital banking. Although the DOI theory sheds light on how people adopt innovation, it does not always capture the subtle institutional forces that shape adoption in many developing nations.*

Furthermore, the way the DOI theory divides people into adoption groups could ignore the dynamic and multi-layered character of decision-making in underdeveloped nations like The Gambia. Income, education, and employment position are among the socioeconomic elements that complicate the adoption of digital banking more than the DOI paradigm would imply (Rogers, 2003). Therefore, even though the DOI theory presents a valuable prism for comprehending the dissemination of digital banking innovations, it must be reinforced by addressing more general structural and institutional elements to represent the complexity of adoption in the Gambian environment adequately.

3. METHODOLOGY

This study adopts a descriptive cross-sectional research design. This design was selected because of the possibility to gather and examine data simultaneously, giving an overview of the adoption of digital banking as it stands today and how it affects financial inclusion in The Gambia.

Firstly, the study population comprised 2,181 individuals representing various key stakeholders in digital banking and financial inclusion. These stakeholders included 50 representatives from commercial banks, 30 representatives from mobile network operators (MNOs), 20 representatives from fintech companies, 17 officials from the Central Bank of The Gambia (CBG), 19 representatives from the Ministry of Finance and Economic Affairs, 2,000 consumers (both bank account holders and the unbanked population), 20 representatives from microfinance institutions (MFIs), 10 representatives from The Association of Non-Governmental Organisations (TANGO), 10 regulatory personnel from GAMTEL (the telecommunications regulatory body), and 5 academics and researchers from the University of The Gambia.

Subsequently, a sample size of 327 respondents was determined using Krejcie and Morgan's (1970) formula. To ensure adequate represented of all stakeholder groups, the study adopt a stratified sampling technique. Participants were divided into strata based on their stakeholder group: commercial banks, MNOs, fintech companies, and consumers. Proportional allocation and simple random sampling were used within each stratum to select participants, thereby minimizing selection bias and ensuring that the sample was representative of the broader population.

In terms of data collection, structured questionnaires were administered to capture information on two primary variables: financial inclusion (the dependent variable), which was measured by access to formal financial services, and digital banking (the independent variable), measured through access to digital banking platforms, transaction volume, adoption rates, and customer satisfaction. The questionnaires were distributed across the identified strata, and participants were given 4 weeks to respond, with data collection lasting for 9 weeks, including administration, follow-up reminders, and the final collation of responses.

Furthermore, the study used statistical techniques to analyse the data and test its hypotheses. Pearson's correlation coefficient was used to test the first hypothesis, helping to assess the strength and direction of the relationship between digital banking and financial inclusion. The second and third hypotheses were tested using multiple linear regression and ordinal regression respectively, therefore allowing an analysis of how various elements of digital banking, such transaction volume and adoption rates, affected financial inclusion. SPSS program was used to examine the data.

Furthermore, the study admitted several limitations even when attempts were taken to guarantee a representative sample. For example, access to particular groups—such as

the unbanked or those with inadequate digital literacy—created possibility for selection bias. Stratified sampling guaranteed the presence of the unbanked population, therefore helping to offset this. Self-reported data could also create response bias, in which case users of digital banking services may overstate or understate their usage. The questionnaire was developed with neutral wording and participants were guaranteed of the anonymity of their replies, therefore promoting honest and accurate responses and minimising this bias.

At last, the study acknowledged the limits of the cross-sectional design, therefore impairing the capacity for causality inference. Although the results show understanding of the relationship between digital banking and financial inclusion, they do not prove a clear cause-and-effect link. However, the results present a helpful window of view of the current degree of digital banking acceptability and how this can influence financial inclusion in The Gambia.

4. DIGITAL BANKING AND FINANCIAL INCLUSION IN THE GAMBIA: QUANTITATIVE PERSPECTIVE

Of the 327 questionnaires distributed, 296, representing a response percentage of 90.52%, were retrieved, with 31 questionnaires (9.48%) not retrieved. The collected questionnaires serve as the foundation for testing the hypotheses in this study, as shown below.

Hypothesis 1 (H1): The current state of digital banking services in The Gambia correlates with the level of financial inclusion among its population.

Table 1
Correlations

			Accessibility of Digital Banking Platforms	Availability of Mobile Banking and Internet Banking Services	User Adoption Rate of Digital Banking Services	Quality of Digital Infrastructure	Level of Financial Inclusion
Spearman's rho	Accessibility of Digital Banking Platforms	Correlation Coefficient	1.000	.326**	.877**	.349**	.770**
		Sig. (2-tailed)	.	.000	.000	.000	.000
		N	296	296	296	296	296
	Availability of Mobile Banking and Internet Banking Services	Correlation Coefficient	.326**	1.000	.286**	.185**	.423**
		Sig. (2-tailed)	.000	.	.000	.001	.000
		N	296	296	296	296	296
	User Adoption Rate of Digital Banking Services	Correlation Coefficient	.877**	.286**	1.000	.210**	.675**
		Sig. (2-tailed)	.000	.000	.	.000	.000
		N	296	296	296	296	296
	Quality of Digital Infrastructure	Correlation Coefficient	.349**	.185**	.210**	1.000	.438**
		Sig. (2-tailed)	.000	.001	.000	.	.000
		N	296	296	296	296	296
	Level of Financial Inclusion	Correlation Coefficient	.770**	.423**	.675**	.438**	1.000
		Sig. (2-tailed)	.000	.000	.000	.000	.
		N	296	296	296	296	296

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Author's Computation based on field work survey (October, 2024)

The correlation table (Table 1) depicts the correlations between five variables relevant to digital banking and financial inclusion in The Gambia. Specifically, significant findings are: First, the strong positive correlation between the accessibility of digital banking platforms and both the user adoption rate (0.877) and financial inclusion (0.774) means that enhancing access to digital banking platforms is essential for expanding both the use of these services and more general financial inclusion. Policy-wise, this result underlines the need for the Gambian government and financial institutions to invest in expanding digital banking platforms, especially in rural and underdeveloped areas. This involves working with mobile network operators (MNOs) to give access via low-cost alternatives for people without smartphones or mobile banking apps needing minimum internet connectivity. Design-wise, digital banking services should prioritize accessibility features, including simplified interfaces and local language support for poor digital literacy.

Secondly, a moderate 0.423 correlation between mobile and internet banking and financial inclusion shows that these digital services help bring more people into the financial system. However, their effect is not as profound as the boost seen when adoption rates and accessibility are widespread. This means that offering mobile and internet banking services alone is insufficient to make a big

difference in increasing financial accessibility. As a result, governments should focus on removing obstacles to these services' actual application in addition to guaranteeing their availability.

This mean investing in better digital infrastructure especially in regions with inadequate internet coverage and rolling out programs like stronger consumer protection, fraud-prevention measures, and financial literacy initiatives to build real trust in digital banking.

Moreover, the significant correlation between the user acceptance rate and financial inclusion (0.675) highlights the need of encouraging general acceptance of digital banking services. Especially among unbanked people, targeted education initiatives could be very important in increasing knowledge of the advantages of digital banking. To highlight how digital banking may streamline financial transactions and offer more access to savings, loans, and other financial products, financial institutions might, for example, financial institutions could partner with community organizations to host seminars or informational sessions in remote areas. Further incentives like lowered transaction costs or bonuses for adopting digital banking systems could inspire more acceptance.

The positive association between digital infrastructure quality and financial inclusion (0.438) reveals how reliable infrastructure advances digital banking. This means that policymakers should spend more in The Gambia's digital infrastructure, especially in underprivileged areas with poor internet connectivity. Policymakers can boost financial inclusion by improving digital infrastructure to support digital banking.

Finally, these findings indicate that financial inclusion, especially among marginalized people, depends on digital banking user adoption. Financial institutions can use this knowledge to build products for low-income people, women, and rural communities. For instance, mobile banking apps that offer micro-loans or savings products customized to these people' financial needs could greatly enhance their financial inclusion. Banks and MNOs might also join to offer bundled banking services with other critical services like healthcare and education, improving the perceived value of digital banking platforms.

In conclusion, these relationships show that boosting financial inclusion in The Gambia requires improved digital banking platforms, digital infrastructure, and user education. Policymakers and financial institutions should focus on developing policies and services that address the specific needs of underserved populations, ensuring that digital banking services are accessible and relevant to these communities.

Hypothesis 2 (H2): Socioeconomic factors (such as income, education, and age) significantly influence the adoption of digital banking services in The Gambia.

Table 2
Correlations

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.856a	.733	.729	.223

a. Predictors: (Constant), Employment Status, Education Level, Age, Income Level

Source: Author's Computation based on field work survey (October, 2024)

Table 2 shows the model summary for a regression analysis that examined how socioeconomic characteristics influenced the adoption of digital banking services. First, the correlation coefficient (R) is 0.856, demonstrating a strong positive association between the predictors—employment status, education level, age, and income level—and the adoption of digital banking services. As a result, the R square value is 0.733, indicating that these socioeconomic characteristics account for around 73.3% of the variation in the usage of digital banking services, implying that the model has significant explanatory power. Furthermore, the adjusted R square value is 0.729, which reflects the number of predictors included in the model. This minor drop suggests that the model is strong even after accounting for the number of variables, which increases its validity. Also, the standard error of the estimate is 0.223, indicating the average distance that the observed values are from the regression line. A lower score indicates that the forecasts are close to the actual values. Overall, the model summary shows that socioeconomic characteristics have a considerable impact on the adoption of digital banking services, indicating a strong correlation and excellent explanatory power within the study's framework.

Table 3
ANOVA[a]

Model		Sum of Squares	DF	Mean Square	F	Sig.
1	Regression	39.558	4	9.890	199.698	.000[b]
	Residual	14.411	291	.050		
	Total	53.970	295			

a. Dependent Variable: Adoption of Digital Banking Services

b. Predictors: (Constant), Employment Status, Education Level, Age, Income Level

Source: Author's Computation based on field work survey (October, 2024)

Table 3 shows the analysis of the ANOVA findings for the multiple regression model, which reveals that socioeconomic characteristics significantly influence the adoption of digital banking services in The Gambia. The multiple regression sum of squares was 39.558, representing the variability explained by key predictors: employment status, education level, age, and income level. Representing inexplicable variance, the residual sum of squares was 14.411. With four degrees of freedom (DF), the regression matched the count of predictors. Simultaneously, the DF for the residual was 291 (derived as the total number of observations less the number of predictors less one).

The mean square for regression was 9.890 (calculated by dividing the regression sum of squares by the degrees of freedom), while the mean square of the residual was 0.050. The F-value of 199.698 indicated a high overall significance of the regression model, confirming that socioeconomic characteristics are strong predictors of digital banking adoption. Additionally, the significance value (Sig.) was 0.000, well below the 0.05 threshold, further emphasizing the statistical significance of the model.

These findings underline socioeconomic factors' significant function in explaining disparities in digital banking acceptance. These findings significantly impact policy and practice since they show that different demographic groups have different impediments that demand customized solutions. For instance, digital banking adoption in The Gambia should be improved using strategies like tailored financial education for less educated people, reasonably priced digital infrastructure access, and easily available platforms for lower-income users. Reducing these social inequalities will help digital banking services be more inclusive and readily available to all demographic groups, fostering increased financial inclusion.

Hypothesis 3 (H3): Digital banking services have a significant impact on financial inclusion in The Gambia.

Table 4
Goodness-of-Fit

	Chi-Square	DF	Sig.
Pearson	.000	7	1.000
Deviance	.000	7	1.000
Link function: Logit.			

Source: Author's Computation based on field work survey (October, 2024)

The Goodness-of-Fit table measures how well the model matches the observed data. In this table, the Pearson Chi-Square and Deviance statistics yield a value of 0.000 with 7 degrees of freedom. Furthermore, the significance level (Sig.) for both tests is 1.000. As a result, a significance value of 1.000 indicates that the model exactly matches the data, as there is no difference between the model and the observed data, signifying a great fit.

Table 5
Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	DF	Sig.
Intercept Only	319.058			
Final	.000	319.058	8	.000
Link function: Logit.				

Source: Author's Computation based on field work survey (October, 2024)

The Model Fitting Information table provides insight into the model's effectiveness. First, the intercept-only model, denoted by a -2 log-likelihood value of 319.058, serves as a baseline without any predictors. The final model, with a -2 log-likelihood of 0.000, shows a significant improvement, with a Chi-Square value of 319.058. The model also has 8 degrees of freedom (df) and a significance level (Sig.) of 0.000, which shows that adding predictors makes the model fit much better than the intercept-only variant. As a result, these findings show that predictors are critical for adequately explaining outcome variability.

Table 6
Parameter Estimates

		Estimate	Std. Error	Wald	DF	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[FinancialInclusioninTheGambia = 0]	-54.344	26776.769	.000	1	.998	-52535.848	52427.159
	Age	-.065	16159.354	.000	1	1.000	-31671.818	31671.687
	IncomeLevel	-3.451	9584.988	.000	1	1.000	-18789.683	18782.781
	EducationLevel	.405	12092.831	.000	1	1.000	-23701.108	23701.918
	EmploymentStatus	35.108	1896.115	.000	1	.985	-3681.210	3751.426
	[Digitalbankingservices=0]	-2.623	6167.106	.000	1	1.000	-12089.928	12084.682
	[Digitalbankingservices=1]	0a	.	.	0	.	.	.
Location	[InternetBankingAccessibility=0]	-3.791	.000	.	1	.	-3.791	-3.791
	[InternetBankingAccessibility=1]	0a	.	.	0	.	.	.
	[DigitalWalletServices=0]	-35.668	11447.783	.000	1	.998	-22472.911	22401.576
	[DigitalWalletServices=1]	0a	.	.	0	.	.	.
	[NumberofDigitalPaymentTransactions=0]	-33.748	12142.260	.000	1	.998	-23832.140	23764.644
	[NumberofDigitalPaymentTransactions=1]	0a	.	.	0	.	.	.

Link function: Logit.

a. This parameter is set to zero because it is redundant.

Source: Author's Computation based on field work survey (October, 2024)

The logistic regression analysis in Table 6 provides valuable insights into the impact of different predictors on financial inclusion in The Gambia. The threshold parameter for financial inclusion was established at 0, with an estimated value of -54.344, but its lack of significance (Wald statistic = 0.000, confidence interval from -52535.848 to 52427.159) indicates uncertainty around this parameter.

Among the location parameters, **age** had a minimal and insignificant impact on financial inclusion, with an estimated -0.065 (SE = 16159.354). Interestingly, **income level** had a negative estimate of -3.451 (SE = 9584.988), suggesting that higher income levels are linked to decreased financial inclusion, though this result was not statistically significant. **Education level** had a positive but marginal effect on financial inclusion, with an estimate of 0.405 (SE = 12092.831), but again, no significance was reported.

With a sizeable positive estimate of 35.108 (SE = 1896.115) and a high significance level (0.985), employment status became apparent as a strong and major predictor of financial inclusion. This outcome indicates that improving financial inclusion in The Gambia depends much on employment.

Regarding digital banking services, the lack of these services was linked to a negative estimate of -2.620 (SE = 6167.106), showing that lack of access to digital banking negatively influences financial inclusion. Nevertheless, no explicit relevance was recorded for the existence of these services. With an estimate of -3.791, the absence was connected to an even more negative impact on financial inclusion, affecting Internet Banking Accessibility.

With highly negative and substantial estimations of -35.668 and -33.748, respectively, digital wallet services and the volume of digital payment transactions had correspondingly extremely negative and significant values. This implies that the underuse of digital financial services hampered financial inclusion in the country.

While emphasizing that other socioeconomic variables, such as income and education, had less evident or negligible associations, the general model underlined the important part of employment status in increasing financial inclusion. This study underscores the need for policymakers to stimulate employment and improve access to digital banking technologies and financial education to help handle the obstacles to financial inclusion among underprivileged groups in The Gambia.

4.1 Discussion of Findings

The study achieved three objectives. First, it assessed the current state of digital banking services in The Gambia. Second, it examined the factors driving digital banking adoption. And lastly, the study evaluated how digital banking affects financial inclusion. These objectives aligned with the three hypotheses of the study that are tested and revealed the following findings.

Hypothesis 1 (H1) assessed the correlation between the current state of digital banking services and the level of financial inclusion in The Gambia. Correlation analysis indicated significant associations among essential variables about digital banking and financial inclusion. A strong positive correlation exists between accessibility to digital banking platforms and user adoption rate (0.877) as well as financial inclusion (0.770). This indicates that enhanced accessibility significantly improves user adoption and, in turn, financial inclusion. The availability of mobile and internet banking demonstrated a positive correlation with financial inclusion (0.423), indicating a beneficial yet relatively lower impact. User adoption rate and the quality of digital infrastructure were positively correlated with financial inclusion, indicating that improvement in infrastructure quality could significantly enhance financial inclusion in The Gambia. These findings underscored the significance of accessibility, availability, and quality of digital banking infrastructure as critical factors influencing financial inclusion, indicating the necessity for promoting user adoption via targeted education and incentives.

Hypothesis 2 (H2) examined the impact of socioeconomic factors, including income, education, and age, on the adoption of digital banking services in The Gambia. Regression analysis indicated a strong positive correlation (R = 0.856) between socioeconomic factors—namely employment status, education level, age, and income level—and the adoption of digital banking services. The R square value of 0.733 demonstrates that approximately 73.3% of the variation in the usage of digital banking services can be attributed to these socioeconomic factors. The ANOVA results indicated the significance of these variables, with an F-value of 199.698 and a significance level of 0.000, illustrating that socioeconomic factors significantly influence digital banking adoption. The findings underscore the necessity of addressing disparities in income, education, and employment to facilitate the wider adoption of digital banking services within the nation.

Finally, Hypothesis 3 (H3) examined the influence of digital banking services on financial inclusion in The Gambia. The goodness-of-fit analysis using Pearson Chi-Square and Deviance statistics indicated an ideal fit between the model and the observed data, supported by a significance value of 1.000. The Model Fitting Information table indicated a significant enhancement with the inclusion of predictors, as evidenced by a Chi-Square value of 319.058 and a significance level of 0.000. The parameter estimates indicated that employment status positively and significantly influenced financial inclusion, while other variables, including age, income, and education, did not show statistical significance. Furthermore, parameters of digital banking services, including the lack of digital wallet options and restricted digital payment transactions, were found to have a

negative correlation with financial inclusion. This suggests that the insufficient use of these services may impede initiatives aimed at enhancing financial inclusion. The findings of this study indicate that enhancing accessibility to digital banking services, addressing socioeconomic disparities, and improving the use of digital payment options are essential for advancing financial inclusion in The Gambia. Considering the substantial impact of employment status, focusing on particular demographic groups, especially the employed, may enhance financial inclusion. These findings highlight the necessity of coordinated policy initiatives to enhance digital banking access, improve socioeconomic conditions, and promote the availability and adoption of digital financial services among the population.

The Diffusion of Innovations (DOI) Theory, which Rogers (1962) proposed, clarifies the study's findings by describing how relative advantage, compatibility, and the influence of early adopters all affect the adoption of digital banking in The Gambia. The research corresponds with DOI's focus on accessibility, socioeconomic factors, and communication as essential determinants of innovation adoption. Nonetheless, the limitations of the DOI theory are reiterated, especially its tendency to underestimate institutional barriers, which pose significant challenges to the adoption of digital banking in The Gambia.

5. CONCLUSION

The importance of financial infrastructure, socioeconomic variables, and digital banking services in promoting financial inclusion in The Gambia is highlighted by this study. According to the study, strong infrastructure, mobile and online banking, and digital platform access are important factors promoting financial inclusion. Adopting these services is also greatly influenced by socioeconomic characteristics, including income, education, and employment position; employment status is one of the most important determinants of access to financial services. Greater financial inclusion is constrained by the inadequate utilization of digital wallet services and payment methods, which underlines the need for targeted efforts to encourage their usage.

These findings have broader implications, not only for The Gambia but also for other developing countries facing similar challenges in fostering financial inclusion. In regions where digital infrastructure is underdeveloped, and socioeconomic disparities are prevalent, the lessons learned from The Gambia can inform initiatives aimed at bridging the financial inclusion gap. By improving access to digital banking services and addressing socioeconomic barriers, developing nations can promote financial equity and stimulate economic growth. Furthermore, this study contributes to the growing body of research on the role of digital transformation in reducing poverty and inequality, emphasizing the importance of inclusive digital economies. Looking ahead, policymakers must focus on creating enabling environments for digital banking, enhancing financial literacy, and investing in infrastructure to ensure that the benefits of financial inclusion are widespread and sustainable.

6. POLICY RECOMMENDATIONS

Some targeted policy actions have been suggested to address some of the problems that are preventing people in The Gambia from using digital banking. These actions also hope to increase the number of people able to use financial services in The Gambia.

Expand Mobile and Internet Coverage in Rural Areas: Better digital infrastructure in rural areas can improve access to digital financial services, expanding mobile and internet coverage in these places. Policymakers should prioritize investment in growing mobile networks and internet coverage so disadvantaged and provincial Gambians can access online financial services consistently. Public-private collaborations between the government, telecoms firms, and fintech businesses can quicken this growth and provide more fair access to financial services across the board.

Implement Targeted Digital Literacy Campaigns: One big problem with digital banking in The Gambia is that many people who are not getting enough help do not know how to use computers. Digital literacy programs should teach people how to use digital banking systems, their benefits, and how to handle their money fundamentally. This effort will help to get more people involved and engaged. People with low incomes, women, and individuals living in rural areas should be able to get help from these programs, and the training should be available in their languages.

Leverage Community-Based Campaigns for Broader Adoption: Leverage Community-Based Campaigns for Broader Adoption: Driven by local leaders and influencers, community-based campaigns significantly increase digital financial service acceptance. Especially in places where mistrust exists, involving reputable and trusted community leaders can assist in establishing credibility and trust in digital banking systems. Early adopters, these local leaders can be role models showing the clear advantages of digital banking, including better credit and savings access. Through this grassroots method, cultural and trust obstacles would be broken, thus promoting more acceptance.

Promote the Use of Digital Wallets and Payment Systems: While the availability of digital banking services is improving, their underutilization remains a challenge. Specific policies should emphasize incentivizing digital wallets and payment systems by reducing transaction fees, simplifying onboarding processes, and offering

user discounts or rewards. Financial institutions should collaborate with mobile network operators and fintech companies to design user-friendly and intuitive platforms, especially for first-time users. Additionally, offering low-cost devices and simplifying account registration processes can help overcome access barriers.

Address Socioeconomic Disparities: Factors like unequal income and limited access to education make the digital divide worse. Policies that significantly help people with low incomes and disadvantaged groups must be explicitly made. These policies could include low-cost loans, discounted access to digital banking services, and microfinance programs that give the disadvantaged population the tools they need to get ahead. Using gender-sensitive methods will also ensure that women, who are not always well-represented in financial services, are fully involved in the digital banking environment.

Build stronger regulatory and infrastructure frameworks: The regulatory environment needs strengthening to address the current issues with infrastructure and compliance. Policymakers should focus on making rules that encourage competition, openness, and security for customers in the digital banking sector. Simplifying the rules that fintech companies have to follow can encourage new ideas while still upholding security standards. Investing in safety and data protection will also help enhance customers' trust and make them feel less worried about online fraud, which is why people do not use digital banks.

Introduce Incentives for Early Adopters of Digital Banking Services: Governments and financial firms should reward early adopters to speed up the acceptance of digital banking innovations. Governments and banks might, for instance, offer tax breaks, cut the fees on online transactions, or even give special access to custom-made financial products—little bonuses that nudge folks to try something new without overcomplicating things. When early users get a boost like this, it often sets off a chain reaction where more people get involved, and in most cases, that extra momentum leads to even better innovations and improvements in the whole system.

In conclusion, an integrated approach that addresses infrastructure, education, socioeconomic disparities, and regulatory conditions is essential to enhancing digital banking services in The Gambia. These policy recommendations highlight the importance of tackling supply- and demand-side barriers to promote financial inclusion, creating a more inclusive financial system that supports economic growth and social equity.

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CONFLICT OF INTEREST

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