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The Effect of FinTech on MSMEs' Performance: The Mediating Role of Financial Inclusion

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Abstract
Financial Technology (fintech) has made financial services more accessible to Small and Medium Enterprises (SMEs) by offering digital payment methods and alternative financing platforms. Because of this advancement, financial inclusion has improved, making it easier for SMEs to get loans and handle transactions effectively. The purpose of the study is to empirically investigate the effect of Fintech on SME performance in Jigawa State, and whether financial Inclusion can mediate the relationship. A descriptive research design approach was used to sample 352 SMEs in Jigawa state, Nigeria, using a convenient sampling technique. A Structural Equation Modelling Technique using Smart PLS v.4.1 software was used to test inferential statistics, and SPSS v.23 software was used to test descriptive statistics. The specific indirect effects statistics show that among the dimensions of fintech, Perceived Usefulness (PUS) and Perceived Ease of Use (PEU) were found to mediate between financial Inclusion and SME Performance, whereas Perceived Trust (PTT) and Responsiveness (RPN) have no mediating effect. The result of the path coefficient indicates that PUS, PEU & PTT have a positive and significant influence on financial Inclusion, while RPN does not. Among the fintech dimensions, PUS & RPN have a positive and significant effect on SME Performance, while PEU & PTT don't. The study also found that financial inclusion significantly predicts SME Performance. Government should support fintech companies with the necessary support to develop new fintech business solution apps/software, since its perceived usefulness is recognized by SMEs.

Keywords: Financial Technology, Financial Inclusion, Performance, Technology Acceptance Model (TAM), Small and Medium Enterprises.

1. Introduction

Financial Technology (fintech) has made financial services more accessible to Small and Medium Enterprises (SMEs) by offering digital payment methods and alternative financing platforms. Because of this advancement, financial inclusion has improved, making it easier for SMEs to get loans and handle transactions effectively. For SMEs, the use of FinTech solutions such as online banking and internet banking has simplified business procedures such as inventory management, electronic book-keeping/accounting, digital payment, sales management, and credit/loan management, which have improved productivity and decreased operating expenses. Also, fintech solutions have enabled SMEs to increase customer loyalty and fulfilment by providing individualized services and convenient payment options. Empirical evidence has shown the positive influence of fintech adoption on harnessing the greater performance of SMES (Lontchi, Yang & Shuaib, 2023; Abbasi et al., 2020).

Performance, which can either be financial or non-financial, is usually achieved when SMEs effectively and efficiently utilize their resources and capabilities to attain high profitability (Imam et al. 2024). According to AbdulRahman and Abubakar (2023), financial performance is when firms optimize a combined relational, structural, and human capital to increase shareholders' wealth. A vibrant financial performance enables an enterprise's capacity to survive and consistently create value sensitive to diverse

stakeholder groups (Orinya et. al. 2024). Non-financial is measured by market share, sales growth activities that help enterprises to remain competitive and relevant.

Studies on MSMEs success and performance indicate that external environmental factors, infrastructure and institutions matter for SME success, though they were constraining variables to SMEs' performance. Marketing practices indicated a negative and insignificant relationship with SMEs' profitability (Effiom & Edet, 2018). The performance and survival of SMEs depend on the favourable policy that can drive and develop SME in Nigeria (Eniola, 2014). Therefore, evaluating the performance of SMEs in Nigeria, especially in Jigawa State, is paramount and necessary because they are playing a crucial role in engaging more than eighty per cent, especially youths and women of the populace, who earn a living. It was also established that SMEs generate almost fifty per cent of the Nation's Gross Domestic Product (GDP), serving as the most vibrant sector of the economy. Despite the above contributions, they struggle for survival because of major challenges of access to finance & infrastructure (SMEDAN & NBS survey, 2020).

It has been established that fintech-created start-ups that provide for the under-banked and unbanked, thereby making them financially inclusive. Several researchers have found fintech to improve the financial inclusiveness of SMEs (Ashenafi & Dong, 2022; Firdaus & Aryanti, 2019; Rosyadah, Budiandriani, & Hasrat, 2021; Nurohman, Kusuma, & Narulitasari, 2021). Some factors have been identified to be affecting fintech development globally, namely: low internet penetration, bank accounts, financial literacy, absence of hardware, lack of funds, etc. (Kandpal & Mehrotra, 2019).

Fintech is a term used to describe the financial service sector where businesses leverage modern technology to enjoy services, which include payments, investments, lending money, transfers and insurance. According to Lubis, Dalimunthe, and Situmeang (2019), fintech is considered capable of reaching people who cannot yet be reached by banks. The existence of fintech aims to make people and businesses more easily access financial products, facilitate transactions and increase financial inclusion. A World Bank's Ease of Doing Business Report (2019) underscores the challenge of Inadequate technological infrastructure, such as unreliable internet connectivity and limited access to digital devices, which poses a significant barrier to fintech adoption. These infrastructural challenges are more pronounced in rural areas of Northwest Nigeria, ranking Nigeria 131st out of 190 countries, reflecting the tough operational environment for businesses, including SMEs. Uncertainties in regulatory frameworks and concerns about data security deter SMEs from embracing fintech solutions. The fear of cyber threats and fraud makes business owners cautious about digital financial transactions. A report by McKinsey & Company of 2021 highlights that navigating an uncertain regulatory environment is a key challenge for fintech growth in Africa.

The consistency in research findings from the literature reviewed so far prompted this research to include a mediating effect to see if the significant positive relationship already existing between fintech and SMEs performance can be enhanced through financial inclusion. Whenever a relationship between two variables (dependent & independent) is established to be consistently significant, Baron and Kenny (1986) suggested that a mediator should be introduced to investigate if it can strengthen the extent of the influence of the independent variable on the dependent variable. This study would also fill a population gap where most research has sampled fewer than five hundred SMEs. Similarly, the study would contribute to the understanding of the TAM theory by using its dimensions as a proxy for fintech.

Despite these benefits, SMEs face challenges in adopting FinTech solutions, such as limited awareness, access to finance (credit), inadequate infrastructure, and cybersecurity concerns. Addressing these challenges is crucial for maximizing the positive impact of FinTech on SME performance. This research study seeks to investigate the effect of financial technology (fintech) on SME performance: the mediating effect of financial inclusion in Jigawa State, Nigeria.

2. Literature Review and Hypotheses Development

Fintech and SMEs Performance

Empirical research has established a significant positive relationship between financial technology (fintech) and the performance of Small and Medium-sized Enterprises (SMEs). Fintech innovations enhance SMEs' access to financial services, reduce financing constraints, and promote innovation, thereby improving overall performance.

A study of Chinese SMEs between 2011 and 2020 found that fintech development significantly improved SMEs' performance by expanding financing options and reducing costs. Fintech alleviated financing constraints, enabling SMEs to access necessary capital more efficiently. (Li et al, 2024). Another research indicates that fintech development positively influences SMEs' Performance through innovative activities. By reducing information asymmetry, fintech facilitates greater financial support from stakeholders, leading to increased investment in research and development. This support is crucial for fostering innovation within SMEs (Li et al., 2023). Peter and Nnunduma (2024) conducted a similar study in Temeke and Kinondoni Municipalities in Dar es Salaam City, of 300 SMEs randomly selected shows that fintech (proxied by digital banking, mobile money services, peer-to-peer lending, crowd investing and crowdfunding) is positively & significantly affecting SMEs performance in the region. The study recommends that SMEs should continue to use fintech to effectively achieve performance.

Meanwhile, a study of 381 SMEs conducted in Oyo State, Nigeria, to ascertain the impact of financial technology usage on the financial and non-financial performance of Small and Medium Enterprises reveals that there is a significant relationship between the usage of fintech and SME performance measures of customer satisfaction, customer retention, turnover and profitability. This finding has concluded that fintech application in business improves both the financial and non-financial performance of enterprises in Nigeria (Akanbi et. al., 2022). Another research by Jamilah and Mardiana (2024) surveyed 100 SMEs in the food and beverages industry in Surabaya City, Indonesia, to examine the influence of fintech on MSMEs through financial literacy. The finding shows that the use of fintech can significantly improve the performance of MSMEs.

Hasyim et. al. (2023) conducted a study that measured fintech through perceived usefulness, perceived ease of use, perceived trust, and responsiveness. The findings reveal that both perceived usefulness and ease of use greatly affect the behavioral intentions of SMEs to adopt fintech, which in turn enhances business operations, resulting in growth and performance. Additionally, perceived trust played a significant role in their decision to use these platforms, contributing to improved financial results. Lontchi et. al. (2023) examines the mediating effect of financial literacy on fintech on the performance of 381 SMEs during Covid-19 recovery in Yaoundé and Douala, Cameroon establish that fintech has a positive and significant effect on the performance of SMEs.

Fintech on Financial Inclusion

Vuković et al. (2024) investigates whether the development of financial technology in the BRICS nations' economies can promote financial inclusion and affect their financial stability. The research finding

reveals a positive dynamic relationship between fintech development and financial inclusion of businesses in these nations. Research conducted by Sandhu et. al. (2023) through a comprehensive literature review to examine whether fintech innovation & adoption have successfully led to financial inclusion in India reveals that fintech innovation from variables such as users' experience and motivation for digital payments drives usefulness and ease of use, leading to financial inclusion. Similarly, a study of 608 fintech users in India aimed at exploring the potential of fintech in creating access to financial services, considering financial literacy as a mediating factor and also seeking to find out if perceived regulatory support can moderate the relationship. The study found that factors like service quality, perceived security and trust are essential in the utilization of fintech services. The study reveals that fintech creates a way through which financial inclusion can easily be achieved because of its positive impact in driving inclusive finance (Amnas et. al., 2024).

Rosyadah et. al. (2021) carried out research to determine the role of fintech on financial inclusion among 335 MSMEs in Makassar, Indonesia, using a convenient sampling technique. The study concluded that fintech has a positive effect on financial inclusion. Another study carried out in Kenya analyses panel data gathered from the annual report and financial statements of regulated banks aimed at determining the impact of some fintech services (credit-oriented, savings-oriented and transactional-oriented services) on financial inclusion. The finding shows that savings-oriented & transactional-oriented services positively impact financial inclusion while credit-oriented services negatively correlate with financial inclusion (Aicha, 2023). A similar study that utilizes panel data from the World bank and Global Financial Inclusion database to investigate the impact of fintech on financial inclusion in eleven Middle East and North African (MENA) countries for the years 2011, 2014 & 2017 found fintech to have positive and significant impact on financial inclusion (Khalaf &Wadi, 2023).

Financial Inclusion on SMEs Performance

There are prior studies that examined whether financial inclusion impacts the performance of SMEs. Some of these studies are;

Usman et. al. (2023) examined 220 SMEs in Dutse metropolis, Jigawa State, Nigeria, to ascertain the impact of fintech and financial inclusion on SME performance. The findings reveal a positive effect of financial inclusion (proxied by Access to financial services) on SME performance. Nugroho and Hwihanus (2023) performed a systematic literature review to ascertain the effect of financial literacy and financial inclusion on MSME performance and the financial resilience of MSME owners. The SLR found that financial inclusion leads to greater performance of SMEs as reported and concluded in several other studies. Azizah et. al. (2024) examines the role played by financial inclusion, financial literacy and fintech in influencing the financial behaviour of MSME owners in Indonesia. The finding reveals that financial inclusion significantly improves the financial behaviour of MSME owners by promoting easy access to financial services and credit facilities. Additionally, several other studies of SMEs confirmed that the more SMEs can utilize digital financial services, which makes them financially inclusive, the more they witness a progressive performance in their businesses (Wibawa & Kajeng, 2023; Yu, 2024; Ainun et. al., 2024). Hence the study hypothesized that

H1-4: FinTech (Perceived usefulness, Perceived ease of use, Perceived trust, Responsiveness) has no significant effects on financial Inclusion.

H5-8: FinTech (Perceived usefulness, Perceived ease of use, Perceived trust, Responsiveness) has no significant effects on SME Performance.

H9: Financial Inclusion has no significant effect on SMEs Performance.

H10-13: Financial Inclusion has no significant mediating effect on fintech (Perceived usefulness, Perceived ease of use, Perceived trust, Responsiveness) and SMEs Performance.

Theoretical Framework

The Technology Acceptance Model (TAM) Theory is the best underpinning theory that can explain the mediating effect of financial inclusion on the relationship between fintech and SME performance. Originally, TAM was developed by Fred D. Davis in 1986 and later introduced additional dimensions by Venkatesh and Davis in 2000. They suggested that users' acceptance of technology is influenced by: Perceived Usefulness (PU) – the degree to which a person believes that using a system will enhance performance. Perceived Ease of Use (PEOU) – the degree to which a person believes that using a system will be free of effort.

SMEs adopt fintech (e.g. mobile banking, digital payments, P2P lending) because they believe it will improve access to capital, reduce transaction costs, and enhance efficiency. When they perceive that there is ease of use of fintech apps as user-friendly and accessible even to those with low digital literacy will quickly adopt it.

When SME finally adopts fintech, it bridges the gaps for underbanked SMEs by offering digital tools and platforms where traditional financial institutions may be absent. It therefore provides better financial access (due to inclusion), which leads to easier access to credit and investments, improved cash flow management, and enhanced business operations.

So, the more SMEs adopt fintech (due to TAM factors), the more financially included they become, which improves overall performance. t66vhis makes TAM theory foundational in understanding adoption, and financial inclusion is the bridge/pathway that carries the benefits of fintech toward actual SME performance.

Conceptual Framework

This research adopted a proposed conceptual framework by Usman and Ibrahim (2023) to provide empirical evidence.

Financial Technology

Fig. 1: Conceptual framework
Source: Usman and Ibrahim (2023)

3. Methodology

The descriptive research design is adopted to determine the mediating effect of financial inclusion on the relationship between fintech and SME performance in Jigawa State.

Population and Sample of the Study

The study considers all SMEs in Jigawa State from the 27 LGAs to constitute the population of the study, which was unable to be reached. That is why his study uses the non-probability sampling techniques. A convenient sampling technique was used because of the inability to obtain a sample frame. Therefore, two (2) local government areas were selected from the five emirate councils of Hadejia, Dutse, Kazaure, Ringim, and Gumel to study fifty (50) SMES each. The research had a sample size of 500 SMEs.

Data Collection and Analysis

A structured questionnaire consisting of four components, Section 1: Demographic data; Section 2: SMEs performance; Section 3: financial inclusion and Section 4: fintech with a 5-point Likert scale, was used to collect data from owners/managers of SMEs in Jigawa state. Five hundred (500) questionnaires were distributed, and three hundred and fifty-two (352) questionnaires were finally used for analysis, representing a 70.4% response rate, which is adequate for analysis (Sekaran 2003; Hair et al. 2010).

The SPSS version 23 software was used for data cleaning, screening and analysis of descriptive statistics. Whereas Smart PLS 4.1 was used for assessment of measurement models and structural equation modelling (SEM).

Measurement Instruments

The performance (unidimensional) variable was measured with a 5 five-item scale adapted from the work of Fadaki et. al (2019). Financial inclusion variable was measured with the Access to Financial Service dimension, consisting of 8 items adapted from the Global Financial Inclusion Index 2022. Davis et al. (1989) scale for Technology acceptance Model (TAM) was adapted to measure fintech consisting of four dimensions of perceived usefulness- 4 items, perceive ease of use – 6 items, perceived trust - 5 items and responsiveness - 3 items. The instrument was cited in the work of Singh et al. (2021).

4. Results and Discussion

Demographic Profiles of the Respondents

The demographic profile of the respondents is interpreted in Table 1 below.

Table 1: Respondents' Frequency Distribution

S/N	Demography	Frequency	Percentage
1.	**Gender:** Male	217	61.6
	Female	135	38.4
2.	**Age:** 20 – 30yrs	174	49.4
	31 – 40yrs	109	31.0
	41 – 50yrs	53	15.1
	51yrs and above	16	4.1
3.	**Educational Qualification:**		
	Primary/SSCE	116	33.0
	Diploma	145	41.2
	HND/B.Sc.	64	18.2
	Postgraduate	27	7.7
4.	**Business size:**		
	1 – 50 employees	214	60.8
	51 – 100 employees	109	31.0
	101 – 150 employees	14	4.0
	151 – 200 employees	15	4.3
5.	**Years in Business:**		
	1 – 10yrs	102	29.0
	11 – 20yrs	108	30.7
	21 – 30yrs	76	21.6
	31yrs and above	66	18.8

Source: SPSS V.23 output, 2025

Table 1 above shows the frequency distribution of the demographic data of the respondents. The descriptive statistics show majority of the sampled respondents are male, i.e. 217 business owners/managers constituting 61.6%, and 135 female-owned businesses/managers constituting 38.4%. Most of the respondents are less than 30yrs constituting about 49.4%, and older respondents between the age of 41 and above constitute less than 15% of the respondents. The respondents have a low level of education as indicated in the table above, as about 75% of them have obtained Pri/SSCE & a diploma as their highest qualification. Only 18% and 7% have HND/BSc, postgraduate degree, respectively. About 214 (60.8%) respondents have employed fewer than 50 employees, while only 15 (4.3%) of the respondents employ between 151-200 employees. In terms of number of years in business, 102, 108, 76 & 66 respondents spent less than 10yrs, 11-20yrs, 21-30yrs and 31yrs and above, respectively.

Assessment of the Measurement Model

Table 2 below shows the results of the assessment of the measurement model checking for composite reliability, internal consistency, factor loadings, Average Variance Explained (AVE) and discriminant validity of specific items. As indicated below, the specific items have met all the measurement criterion thresholds, i.e. Cronbach alpha coefficient of >0.7, factor loading >0.5, AVE >0.5 and Fornell-Larcker criterion (Hair et al., 2014; Henseler et al., 2009).

Table 2: Measurement Model results

Latent construct	Outer weight/loadings	Composite Reliability (rho_a)	Cronbach Alpha	AVE
SME Performance	-	0.867	0.835	0.604
PER1	0.906			
PER2	0.821			
PER3	0.671			
PER4	0.640			
PER5	0.816			
Financial Inclusion	-	0.858	0.826	0.668
FIN1	0.859			
FIN2	0.899			
FIN3	0.866			
FIN5	0.586			
Perceived Usefulness	-	0.826	0.815	0.650
PUS1	0.760			
PUS2	0.873			
PUS3	0.891			
PUS4	0.683			
Perceived Ease of Use	-	0.911	0.905	0.677
PEU1	0.756			
PEU2	0.812			
PEU3	0.818			
PEU4	0.848			
PEU5	0.833			
PEU6	0.866			
Perceived Trust	-	0.818	0.798	0.548
PTT	0.640			
PTT	0.670			
PTT	0.761			
PTT	0.775			
PTT	0.836			
Responsiveness	-	0.803	0.774	0.699
RPN	0.925			
RPN	0.894			
RPN	0.666			

Source: SmartPLS 4.1, 2025

Table 3 below presents the correlation matrix among the latent constructs to assess discriminant validity using the Fornell-Larcker (1981) criterion. All constructs have met the required threshold.

Table 3: Fornell-Larcker Statistics

Constructs	FIN	PER	PEU	PUS	PTT	RPN
FIN	**0.818**					
PER	0.749	**0.777**				
PEU	0.742	0.760	**0.823**			
PTT	0.577	0.569	0.576	**0.740**		
PUS	0.638	0.624	0.716	0.450	**0.806**	
RPN	0.722	0.764	0.741	0.580	0.598	**0.836**

Source: SmartPLS 4.1, 2025

Assessment of Structural Equation Model and Test of Hypothesis

This study examined the mediating effect of financial inclusion on the relationship between fintech and SME performance. Therefore, Table 4 below indicates the results of both direct and indirect effects in the model.

Table 4: Results of SEM and Hypothesis Testing

Hypothesis	Relationship	Beta	SD	T-value	P-value	Decision
1.	PUS-→ FIN	-0.085	0.027	3.130	0.002	Not supported
2.	PEU-→ FIN	0.943	0.028	3.756	0.000	Not supported
3.	PTT-→ FIN	0.044	0.020	2.232	0.026	Not supported
4.	RPN-→ FIN	0.049	0.029	1.724	0.085	Supported
5.	PUS-→ PER	0.053	0.023	2.350	0.019	Not supported
6.	PEU-→ PER	-0.040	0.053	0.078	0.435	Supported
7.	PTT-→ PER	-0.015	0.017	0.872	0.383	Supported
8.	RPN-→ PER	0.879	0.019	4.185	0.000	Not supported
9.	FIN -→ PER	0.127	0.047	2.717	0.007	Not supported
10.	PUS→FIN→ PER	-0.011	0.005	2.259	0.024	Partial Mediation
11.	PEU→FIN→ PER	0.119	0.044	2.719	0.007	Full Mediation
12.	PTT→FIN→ PER	0.006	0.003	1.691	0.091	No Mediation
13.	RPN→FIN→ PER	0.006	0.004	1.445	0.149	No Mediation

**level of significance 5% (0.005)

Source: SmartPLS 4.1 output, 2025

This study formulated a null hypothesis in the relationships between all the variables. The first three hypotheses indicate a significant relationship exists between the independent variable dimensions and the mediator. As seen above, PUS (t=3.130, p=0.002), PEU (t=3.756, p=0.000) and PTT (t=2.232, p=0.026) all show a p-value of >0.005. Therefore, H1-H3 are not supported. Whereas RPN (t=1.724, p=0.085) supported H4. Hence, PUS, PEU & PTT have a significant effect on financial inclusion, while RPN do not.

In the relationship, whether fintech and financial inclusion predict SME performance, which is H5-H9. This study establishes that PUS (t=2.350, p=0.019), RPN (t=4.185, p=0.000) did not support H5 & H8 because of a p-value of <0.005. This indicates that PUS & RPN predict SME performance. PEU (t=0.078, p=0.4350 & PTT (t=0.872, p=0.383) have a p-value >0.005, hence H6 & H7 are not supported. Indicating that they do not influence SME performance. Statistically, financial inclusion was found to have a positive and significant effect on SME performance, showing a t=2.717, p=0.007 as seen in Table 4 above. Therefore, H9 is also not supported.

The main objective of this study is to examine the mediating effect of financial inclusion on the relationship between fintech and SMES performance. As shown in Table 4 and Figure 2, the statistical result indicates that financial inclusion mediates between PUS and SME performance & PEU and SME performance, with t=2.259 & p=0.024 and t=2.719, p=0.007, respectively. H10 & H11 are not supported. Meanwhile, H12 & H13 are supported because it was statistically found that financial inclusion has no mediating effect on PTT and SME performance & RPN and SME performance relationships because of t=1.691, p=0.091 and t=1.445, p=0.149 respectively, hence, H12 and H13 were supported.

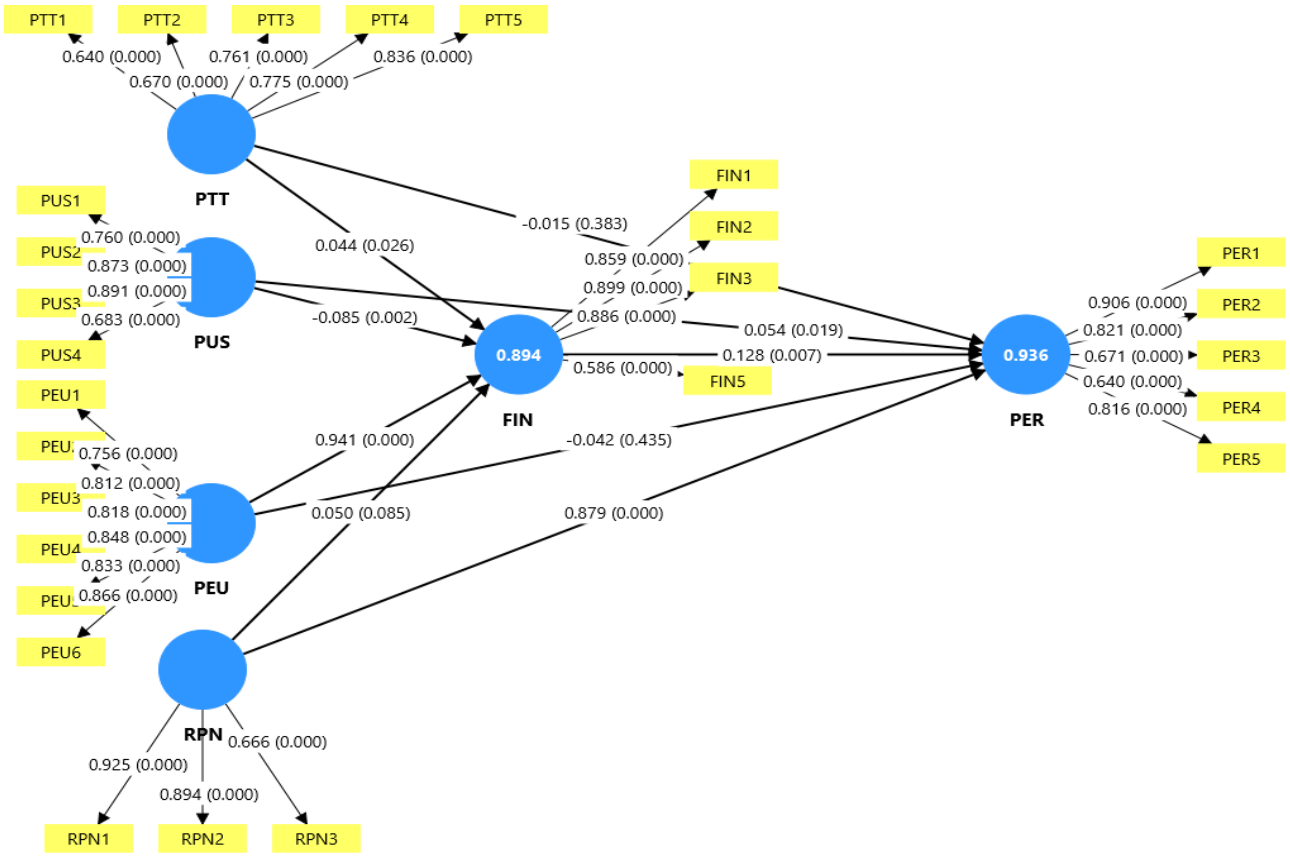

Figure 2: Structural Equation Model Diagram
Source: SmartPLS 4.1, 2025

Assessment of Predictive Relevance

The predictive relevance of the structural model was assessed using R-squared and PLSpredict (Q^2 predict). Table 5 below shows an R-squared value of 0.936 for SME performance in the model. This implies that all the exogenous variables in the study collectively explain 93.6% of the variance in the performance of SMEs. Likewise, in the model, financial inclusion has an R-squared value of 0.894, which indicates that the independent variable explains 89.4% of the total variance of financial inclusion in the model.

Also, the model has predictive power since Q^2 predicted values were found to be above zero as suggested by Hair et. al., 2019. According to Cohen (1988), f-squared values of 0.02, 0.15 and 0.35 show weak, moderate and strong effects, respectively. Table 5 below shows the effect sizes of the latent variables, which are all found to be weak.

Table 5: Predictive Relevance Result

Variables	R-square	Q^2 predict	Effect size f^2 (PER)
PER	0.936	0.932	
FIN	0.894	0.891	0.027
PUS	-	-	0.021
PEU	-	-	0.002
PTT	-	-	0.002
RPN	-	-	0.089

Source: SmartPLS 4.1, 2025

Discussion

The main objective of this study is to examine the mediating effect of financial inclusion on the relationship between fintech and SME performance, where thirteen (13) hypotheses were formulated describing the direct and indirect relationships among the variables. Specifically, the findings of these relationships are discussed as follows.

The Mediating Effect of Financial Inclusion on Fintech and SMEs Performance

The study formulated four hypotheses to test the mediation effect of financial inclusion on the independent and dependent variables. This is because the IV has four dimensions, namely: Perceived Usefulness of technology (PUS), Perceived Ease of Use of technology (PEU), Perceived Trust of technology (PTT) and Responsiveness (RPN) of the technology when used. From the statistical evidence obtained, hypothesis 10 shows a partial mediating effect of the mediator at a p-value of 0.024. The mediating effect is partial because PUS was statistically found in this study to predict the performance of SMEs. Therefore, respondents feel that technology is so useful and can determine their business performance and being financially inclusive can help if available. Likewise, the study found financial inclusion significantly (fully) to mediate the relationship between PEU and SME performance. This indicates that respondents' perceived ease of use of technology to perform financial transactions is only possible through financial inclusiveness. This is because the study found that PEU doesn't determine SME performance.

The Effect of Fintech on SME Performance

Among the four dimensions of fintech, perceived usefulness (PUS) and responsiveness (RPN) of technology were found to have a significant positive effect on SME performance. While perceived ease of use and trust were found not to significantly affect SME performance in Jigawa State. This implies that when SMEs perceive that technology is useful to their business and its level of responsiveness is satisfactory, it will increase their business performance. Meanwhile, SME owners/managers feel that technology is not easy to use; therefore, they don't trust it, therefore it won't have any effect on their business performance.

This research finding did not agree with the result obtained by Thathsarani and Jianguo (2022) concluded that TAM (PUS & PEU) have a significant influential role on SME performance in Sri Lanka. In the same vein, Hasyim et. al. (2023) found PUS and PTT as significant predictors of SME performance, while PEU is not in the adoption of Islamic fintech by SMEs in Indonesia. Even though both studies above found that perceived usefulness predicts SME performance, which agrees with the result of this study.

The Effect of Financial Inclusion on SME Performance

A statistical result from this study establishes a strong and significant relationship between financial inclusion and SME performance. This means that the more SMEs have greater access to financial services, the more their business performance appreciates/increases. Previous research (Usman et al. 2023; Wibawa & Kajeng, 2023; Yu 2024; Ainun et al. 2024) also found the same result in a different context.

The Effect of Financial Technology on Financial Inclusion

The result from the SEM analysis indicates that PUS, PEU and PTT have a significant influence on the financial inclusion of SMEs. Responsiveness of technology is found not to be a determinant of financial inclusion. It means that SMEs have perceived technology to be useful to them, they have also found the technology to be easy to use, and they have trust in it, therefore, it will make them financially inclusive. Bongomin and Ntayi's (2020) finding that trust has a significant and positive effect on financial inclusion aligns with the findings of this study. Though previous research has proven that fintech to significantly influence financial inclusion (Syauqi et al. 2023; Amnas et al. 2024). Studies with the TAM variables on financial inclusion 8are limited, which is where this study wants to fill the gap.

5. Conclusion and Recommendations

Fintech has been evolving rapidly over the years in Nigeria and around the world. Numerous pieces of evidence have shown its positive impact on the growth and development of SMEs through innovative endeavours by tech companies. This has made financial inclusion possible for the under-banked and unbanked population to be part of the financial system for economic prosperity. Fintech have contributed immensely to SMEs and the public in providing a platform for easy financial transactions. It would also promote the cashless policies of the government and the easy regulation of the financial ecosystem in the country. Certainly, fintech would provide inclusive finance to SMEs, which would improve the performance of SMEs in Nigeria if adequately researched.

Recommendations and Suggestions for Future Studies

Based on the findings of the study, the following recommendations are made;

i. Government should support fintech companies with the necessary support to develop new fintech business apps/software, since its perceived usefulness is recognized by SMEs
ii. Cybersecurity issues should be taken seriously to create trust in adopting and using financial technology solutions by SMEs.
iii. The financial inclusion drive by the Government should be intensified to provide more awareness.
iv. It is therefore suggested that future research should use mediators like the government regulation framework or internet infrastructure to assess how fintech adoption can lead to SME performance.

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