Effect of Social Media Platforms Usage on the Performance of Small and Medium Enterprises in Katsina State, Nigeria

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ABSTRACT

This study examines the effect of social media platforms usage on the performance of Small and Medium Enterprises (SMEs) in Katsina State, Nigeria. Anchored on the Technology Acceptance Model (TAM), the research investigates how the perceived usefulness and ease of use of digital platforms influence SME performance outcomes. A descriptive cross-sectional survey design was adopted, with data collected from 381 SME owners using structured questionnaires. The data were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings reveal that major social media platforms—Facebook, Instagram, TikTok, WhatsApp, and X (Twitter)—have positive and statistically significant effects on SME performance. Specifically, these platforms enhance sales growth, customer engagement, brand visibility, and overall business competitiveness. Among the platforms, WhatsApp and Facebook demonstrated the strongest influence, indicating their strategic importance in SME operations. The study concludes that effective adoption and utilization of social media platforms significantly improve SME performance in Katsina State. It therefore recommends that SME owners strategically integrate social media into their business processes, focusing on consistent content creation, customer interaction, and performance monitoring to maximize the benefits of digital marketing.

Keywords: Facebook; Instagram; Tiktok; Whatsap; X (Twitter); Small and Medium Enterprises.

1. INTRODUCTION

The growing intensity of global competition has created a volatile business environment, particularly affecting Small and Medium Scale Enterprises (SMEs). In this context, marketing innovation is essential not only for profitability but also for long-term business sustainability. SMEs significantly contribute to economic development through GDP growth, employment, and innovation. However, sustainable performance extends beyond financial outcomes to include resilience, stakeholder trust, and social responsibility. Despite facing resource constraints and competitive pressures, SMEs can enhance long-term sustainability by adopting innovation-driven and sustainability-oriented marketing strategies (Mokhtar *et al*., 2017).

Social media serves as a flexible and affordable marketing tool that enables SMEs to engage customers and achieve marketing objectives (Ahmodu, 2023). Its interactive features strengthen relationships and improve sales performance (Mokhtar et al., 2017). Unlike earlier studies that emphasized LinkedIn, WeChat, Google, and YouTube (Wibawa et al., 2022; Ahmodu, 2023), this research concentrates on X, Facebook, WhatsApp, TikTok, and Instagram because of their high usage and measurable real-time engagement in Nigeria (Statista, 2024).

X (formerly Twitter) enables real-time business customer interaction, supporting brand awareness, visibility, engagement metrics likes, comments, retweets, and sales growth (Lawal&Adejuwon, 2023). Facebook enhances SME marketing through Pages, advertisment, marketplace features, and interactive communication tools (Mussa&Kyari, 2023). WhatsApp facilitates interactive text and multimedia marketing, Application Programming Interface (API) integration, real-time responses, and efficient customer management (Stone & Logan, 2018; Khatun& Al-Dhlan, 2017). TikTok supports short-form video marketing, audience engagement, and conversion-driven outcomes such as sales and website clicks (Tajvidi&Karami, 2021). Social media reduces marketing costs, strengthens customer relationships, enhances market intelligence, improves competitive analysis, and boosts SME performance in both developed and emerging markets (Qalati et al., 2020; Ainin et al., 2015; Candra&Susanto, 2020; Soto-Acosta et al., 2016).

For SMEs operating in highly competitive markets, the ability to gather market intelligence and monitor competitors through social platforms also contributes to strategic decision-making and innovation. This has supported the argument established by some scholars (Ainin et al., 2015; Candra&Susanto, 2020; Soto-Acosta et al., 2016) that SMEs play a crucial role in the Nigerian economy, contributing significantly to employment, economic growth, and poverty reduction.

Additionally, Victor et al. (2021) utilized the Integrated Marketing Communication (IMC) framework to guide his study, focusing on the alignment of marketing efforts for consistent messaging. While this approach supports synergy in communication, it overlooks critical issues like message distortion across diverse channels, risking loss of clarity. This study contributes to the growing body of literature on digital transformation and SME performance by empirically

examining multiple social media platforms simultaneously within a developing economy context. This is by extending the Technology Acceptance Model to SME performance in Katsina State, the study offers both theoretical advancement and context-specific empirical evidence relevant to emerging markets.

2. LITERATURE REVIEW

2.1. Small and Medium Enterprises (SMEs)

Play a critical role in economic development through employment generation, GDP contribution, innovation, and adaptability. Despite challenges such as limited capital, infrastructural deficiencies, and market competition, SMEs remain vital to economic sustainability. The integration of digital technologies, particularly social media and e-commerce, has significantly enhanced SMEs' ability to expand market reach, improve operational efficiency, and increase competitiveness. Social media platforms also enable SMEs to directly engage customers, gather market intelligence, and strengthen customer relationships, thereby improving overall performance (Odoom *et al*., 2019).

2.2. SME performance

Is a multidimensional concept encompassing profitability, growth, customer satisfaction, market share, and operational efficiency. It involves both quantitative indicators such as sales volume and qualitative aspects like customer engagement and loyalty. In the context of social media usage, performance reflects how effectively SMEs utilize digital platforms to achieve business objectives, enhance competitiveness, and sustain growth in dynamic markets.(Tajvidi&Karami, 2021; Uchenna et al., 2019; Ye et al., 2022)

2.3. Social media platforms

These are internet-based applications that facilitate content creation, sharing, and interaction among users. They support real-time communication and user-generated content, making them valuable tools for business marketing and engagement. For SMEs, these platforms serve as cost-effective channels for brand promotion, customer interaction, and market analysis. Their accessibility and interactive nature make them essential tools for improving business performance. (Basri& Siam, 2019).

2.4. X (formerly Twitter)

This is a microblogging platform that enables real-time communication and content sharing. SMEs use it to enhance brand visibility, engage customers, and monitor market trends. Its features such as hashtags, mentions, and instant feedback allow businesses to connect with wider audiences and respond promptly to customer needs, thereby improving customer satisfaction and business performance (Bruce *et al*., 2023).

2.5. Facebook

This is a widely used social media platform that supports business activities through features such as pages, targeted advertising, and analytics tools. It enables SMEs to reach large audiences, engage customers, and promote products effectively. Its algorithm-driven system enhances content visibility, making it a strategic tool for improving sales, brand awareness, and customer relationships (Ur-Rahman *et al*., 2020).

2.6. WhatsApp

This is a mobile messaging platform that facilitates instant communication through text, voice, and multimedia. It is widely used by SMEs for customer service, marketing, and business communication. Features such as group chats, automated responses, and product catalogs enhance efficiency and customer interaction. Its cost-effectiveness and ease of use make it a valuable tool for improving SME performance.

2.7. TikTok

This is a fast-growing social media platform that focuses on short-form video content. Its algorithm-driven content distribution enhances visibility and engagement. SMEs utilize TikTok for creative marketing, influencer collaborations, and brand promotion. The platform's ability to reach large audiences at low cost makes it effective for increasing customer engagement and driving business growth.

2.8. Instagram

is a visual-based social media platform that enables users to share photos and videos. It provides SMEs with tools for digital marketing, including stories, reels, and analytics. Instagram enhances brand visibility, customer engagement, and market reach through visual storytelling. Its features support targeted marketing and help businesses optimize their strategies based on user interaction.

Overall, social media platforms provide SMEs with strategic opportunities to improve performance by enhancing customer engagement, expanding market reach, and increasing competitiveness. Effective utilization of these platforms enables SMEs to achieve sustainable growth and adapt to the evolving digital business environment.

2.9. Review of Empirical Studies

2.9.1. The Effect of X Platform and Small and Medium Enterprises performance

Empirical evidence shows that social media platforms significantly influence SME performance, although findings vary across contexts and methodologies. Studies on X (formerly Twitter) indicate that it enhances customer engagement, brand visibility, and innovation. It also supports information exchange and relationship building among businesses, thereby improving competitiveness (Adebayo and Olatunji, 2021).

2.9.2. The Effect of Facebook Platform and Small and Medium Enterprises performance

Research on Facebook consistently demonstrates a positive relationship with SME performance. It enhances marketing efficiency, customer interaction, and operational flexibility. Empirical findings show that Facebook contributes to improved responsiveness, engagement, and overall business performance through its advertising and analytics features (Ghanem and Hamid, 2020).

2.9.3. The Effect of TikTok Platform and Small and Medium Enterprises performance

TikTok has emerged as a powerful platform for SME growth, particularly through creative content marketing and influencer engagement. Studies reveal that its cost-effectiveness, interactivity, and wide reach significantly improve customer engagement and sales performance, making it an important tool for modern digital marketing (Okafor and Ibrahim, 2023).

2.9.4. The Effect of Instagram Platform and Small and Medium Enterprises performance

Instagram is widely recognized for its impact on SME performance through visual marketing strategies. Empirical studies show that it enhances brand visibility, customer engagement, and both financial and non-financial outcomes. Its user-friendly interface and content-sharing features make it highly effective for business promotion (Akbar, 2021).

2.9.5. The Effect of Whatsapp Platform and Small and Medium Enterprises performance

WhatsApp contributes to SME performance by enabling real-time communication, improving customer service, and supporting cost-effective marketing. Studies highlight its role in strengthening customer relationships and facilitating efficient business operations, although some findings suggest only moderate effects (Richard *et al*.. 2023).

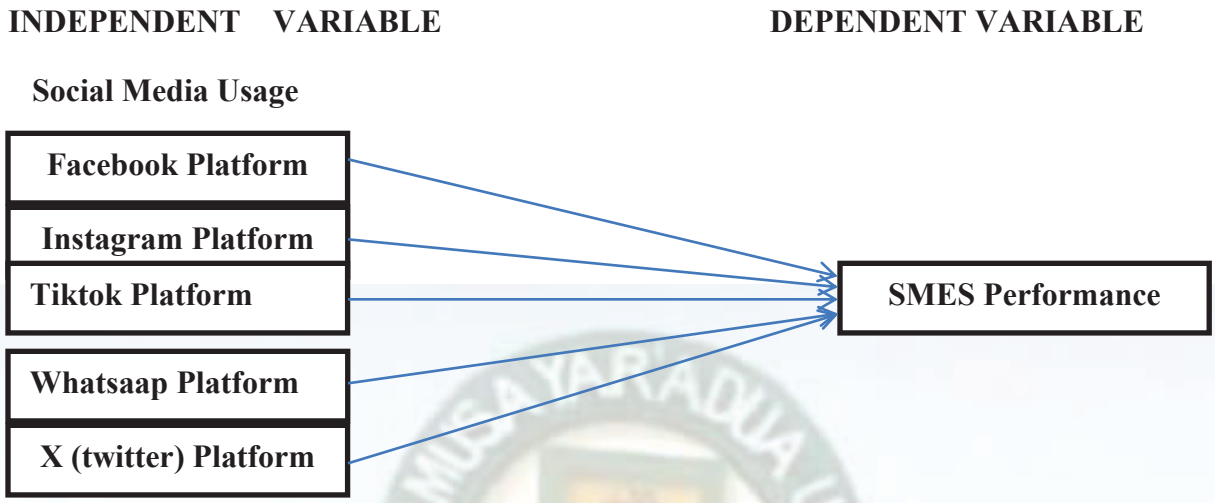
2.10. Literature Gaps Based On Empirical Review

The empirical review reveals several inconsistencies and contextual limitations in existing studies on the relationship between social media usage and SME performance. While many scholars report positive and significant effects of platforms such as Facebook, Instagram, TikTok, WhatsApp, and X (Twitter) on business outcomes, others present contradictory findings, including weak or non-significant relationships. These inconsistencies suggest a lack of consensus in the literature, which may be attributed to differences in research design, measurement of variables, and contextual settings. Furthermore, a large proportion of prior studies have focused on single platforms or specific industries, thereby limiting the generalizability of their findings across diverse business sectors. This fragmented approach creates a gap in understanding the combined and comparative effects of multiple social media platforms on SME performance within a unified analytical framework.

In addition, most existing studies have been conducted outside the Nigerian context or within more developed regions, with limited empirical evidence specifically addressing SMEs in Katsina State. Even within Nigeria, regional-level analyses remain scarce, despite variations in digital adoption, infrastructure, and business environments. Moreover, previous research has often relied on alternative theoretical frameworks such as Integrated Marketing Communication (IMC), with limited application of the Technology Acceptance Model (TAM) in explaining SME adoption of social media and its performance implications. This indicates a theoretical gap in linking user perception factors—such as perceived usefulness and ease of use—to measurable business outcomes. Therefore, this study addresses these gaps by adopting a multi-platform perspective, focusing on a less-explored regional context, and applying TAM to provide a more comprehensive and contextually relevant understanding of how social media usage influences SME performance.

2.11 Research Framework and Hypotheses

The conceptual framework illustrates the linkage between the independent and dependent variables under investigation. In this model, the social media platform (SMP) serves as the independent variable, demonstrating its directional influence on SME performance (SMEP). This framework reflects a direct relationship, emphasizing how the use of social media platforms potentially drives performance outcomes in SMEs



(Source: Researcher, 2026)

Figure 1. Illustrates the conceptual framework for this study. The independent variable is social media platforms which is proxied by, Facebook, Tiktok, Intasgram, Whatsapp and X (Twitter) the dependent variable is Small and Medium Enterprises Performance.

3. METHODOLOGY

The research was a descriptive cross-sectional survey design, which was well-suited for gathering data on the independent variable, social media usage, and the dependent variable, SMEs' performance. Descriptive survey methods were ideal for obtaining a comprehensive view of existing trends and behaviours, thereby supporting informed decision-making and identifying areas for further investigation. The study's target population consisted of all 21,610 registered SMEs in Katsina State, as reported by SMEDAN/NBS (2021). The population comprised owners of SMEs, food processing firms ranging from flour, rice, oil to dairy, poultry, and beverage production providing a rich variety of data and perspectives on the use of innovation, marketing, and digital platforms like social media. The study adopted the Krejcie and Morgan (1970) sample size table, which accounts for population size, confidence level (95%), margin of error, and population proportion as previously utilized by Halake and Ombui (2022) and (Nwikiabeh et al. (2022). According to the table, a population of 20,000 requires 377 respondents, while the next value 30,000 requires 379. With a target population of 21,610, the study selected a sample size of 377 to ensure validity and consistency. This is because for populations around 20,000–30,000, the sample size does not increase dramatically, so rounding to the closer value 377 Following the recommendations of Israel (1992) and Gay (1987), a 30% increment was added to the selected minimum sample size of 377 to account for non-responses and attritions bringing the total to 490 sample size. From these, 421 were returned, however following the removal of incomplete or invalid responses, 381 valid questionnaires remained for the study analysis. This final sample falls within the acceptable range, ensuring representativenes, validity, and reliability

of the study findings. Responses were measured on a five-point Likert scale, ensuring the effects of the data.

4. RESULTS AND DISCUSSION OF FINDINGS

4.1 Rate of Response

Following the discussion in the previous chapter, this study distributed 490 questionnaires to owners, managers, marketing managers, supervisors, public relations officers, and ICT staff of registered SMEs in Katsina State. The study utilized Krejcie and Morgan's (1970) method, a sample size of 381 usable questionnaires was obtained after removing 40 incomplete responses, accounting for 78% of the total distributed. Details of the questionnaire distribution and retrieval are provided in Table 1.

Table 1 shows the response rate

Response rate	Frequency/Rate
No. of distributed questionnaires	490
Returned questionnaires	421
Returned and usable questionnaires	381
Returned and excluded questionnaire	40
Questionnaires not returned	69
Overall Response Rate	86%
Valid Response Rate	78%

4.2 Descriptive Analysis of Demographic Characteristics

This subsection presents a descriptive analysis of the respondents' demographic information; specifically focusing on age, gender, years of business operation, and educational qualification, position in the business, years of business operation, primary social media platform used. The Table, 2 Summarize of the descriptive statistics for these demographic variables.

Table 2 Descriptive Results of Demographic Variables

Characteristics	Frequency	Frequency	Valid Percentage	Cumulative Percentage
Gender				
Male	204	53.5	53.5	53.5
Female	177	46.5	46.5	**100.0**
Total	**381**	**100.0**	**100.0**	
Age	**Frequency**	**Percentage**	**Valid Percentage**	**Cumulative Percentage**
18-25yrs	46	12.1	12.1	12.1
26–35yrs	87	22.8	22.8	34.9
36-45 yrs	125	32.8	32.8	67.7
46-55yrs	90	23.6	23.6	91.3
56 above	33	8.7	8.7	**100.0**
Total	**381**	**100.0**	**100.0**	
Qualification	**Frequency**	**Percentage**	**Valid Percentage**	**Cumulative Percentage**
PhD/DBA/MPiL	16	4.2	4.2	4.2

Msc/MBA	54	14.2	14.2	18.4
Bsc/HND	152	39.9	39.9	58.3
Diploma/NCE	106	27.8	27.8	86.1
O'level	53	13.9	13.9	**100.0**
Total	**381**	**100.0**	**100.0**	
Position in the Business	**Frequency**	**Frequency**	**Valid Percentage**	**Cumulative Percentage**
Owners/Sole Proprietor	35	9.2	9.2	9.2
General Manager	71	18.6	18.6	27.8
Marketing /Sales Manager	105	27.6	27.6	55.4
Supervisors	76	19.9	19.9	75.3
public relation officers	94	24.7	24.7	**100.0**
Total	**381**	**100.0**	**100.0**	
Years of bus. Operation	**Frequency**	**Frequency**	**Valid Percentage**	**Cumulative Percentage**
1—5years	73	19.2	19.2	19.2
6—15 years	76	19.9	19.9	39.1
16—25 years	109	28.6	28.6	67.7
26—35 years	69	18.1	18.1	85.8
36-45above	54	14.2	14.2	**100.0**
Total	**381**	**100.0**	**100.0**	
PrimarySocial Media Platform Used				
Twitter (X)	32	8.4	8.4	8.4
Facebook	125	32.8	32.8	41.2
WhatsApp	123	32.3	32.3	73.5
Instagram	62	16.3	16.3	89.8
TikTok	39	10.2	10.2	**100.0**
Total	**381**	**100.0**	**100.0**	

Source: Author's Computation (2026) using SPSS version 27

The respondents comprised 381 participants, with males accounting for 204 (53.5%) and females 177 (46.5%), indicating a balanced gender distribution. Most respondents were within the economically active age groups, particularly 36–45 years (32.8%), followed by 46–55 years (23.6%) and 26–35 years (22.8%). Those aged 18–25 years constituted 12.1%, while 56 years and above represented 8.7%. Educationally, most respondents held BSc/HND qualifications (39.9%), followed by Diploma/NCE (27.8%), MSc/MBA (14.2%), O'level (13.9%), and PhD/DBA/MPiL (4.2%). Marketing/Sales Managers formed the largest group (27.6%), followed by Public Relations Officers (24.7%), Supervisors (19.9%), General Managers (18.6%), and Owners/Sole Proprietors (9.2%). Most businesses had operated for 16–25 years (28.6%), while 6–15 years (19.9%), 1–5 years (19.2%), 26–35 years (18.1%), and above 36 years (14.2%)

followed. Facebook (32.8%) and WhatsApp (32.3%) were the most used social media platforms, followed by Instagram (16.3%), TikTok (10.2%), and Twitter (X) (8.4%).

4.3 Measurement Model Assessment

In PLS-SEM, reflective constructs are evaluated by first assessing item reliability through outer loadings, which should range from 0.4 to 0.7. Internal consistency is then confirmed using Cronbach's Alpha and composite reliability, with recommended values of 0.7 to 0.9. AVE values of at least 0.50 indicate adequate convergent validity. Discriminant validity is finally established using the Fornell–Larcker criterion, where the square root of AVE must exceed inter-construct correlations, ideally not exceeding 0.85–0.90.

4.4 Internal Consistency Reliability

To ascertain the internal consistency reliability of the measurement model, Cronbach's alpha and composite reliability were employed. Cronbach's alpha assumes uniform indicator loadings, whereas composite reliability relaxes this assumption by accounting for heterogeneous indicator contributions, making it more appropriate for variance-based structural equation modeling (Hair et al., 2014). The application of both reliability measures provided a rigorous and holistic evaluation of construct reliability. Consistent with methodological recommendations, constructs were considered reliable when Cronbach's alpha exceeded 0.70 and composite reliability was greater than 0.708. As evidenced in Table 3, all constructs achieved these thresholds, with Cronbach's alpha coefficients ranging from 0.956 to 0.974, signifying excellent internal consistency (Hair et al., 2014; Nunnally, 1978). Similarly, rho_A and rho_C values, which ranged from 0.956 to 0.977, further substantiated the reliability of the constructs and demonstrated compliance with established reliability criteria (Hair et al., 2014, 2018, 2021).

Table 3 Individual Item Reliability, Internal Consistency Reliability, Convergent Validity and Discriminant Validity

	Outer loading	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
FBP		0.963	0.963	0.970	0.842
FBP1	0.908				
FBP2	0.916				
FBP3	0.916				
FBP4	0.918				

FBP5	0.921				
FBP6	0.928				
IGP		0.965	0.965	0.972	0.851
IGP1	0.767				
IGP2	0.766				
IGP3	0.741				
IGP4	0.778				
IGP5	0.771				
IGP6	0.765				
SMEP		0.974	0.974	0.977	0.809
SMEP1	0.821				
SMEP10	0.824				
SMEP2	0.804				
SMEP3	0.822				
SMEP4	0.774				
SMEP5	0.808				
SMEP6	0.813				
SMEP7	0.826				
SMEP8	0.830				
SMEP9	0.803				
TTP		0.965	0.966	0.972	0.853
TTP1	0.767				
TTP2	0.800				
TTP3	0.767				
TTP4	0.760				

TTP5	0.762				
TTP6	0.768				
WAP		0.956	0.956	0.965	0.820
WAP1	0.782				
WAP2	0.794				
WAP3	0.773				
WAP4	0.787				
WAP5	0.778				
WAP6	0.787				
XPL		0.961	0.961	0.969	0.837
XPL1	0.779				
XPL2	0.775				
XPL3	0.767				
XPL4	0.730				
XPL5	0.753				
XPL6	0.773				

Source: Author's Computation (2026) using Smart PLS 4.0.9.9 released 2023

The estimated results of the PLS-SEM for the model described in Equation 1 are presented in Figures 1 and 2. The computations and model estimations were conducted utilizing SmartPLS statistical software

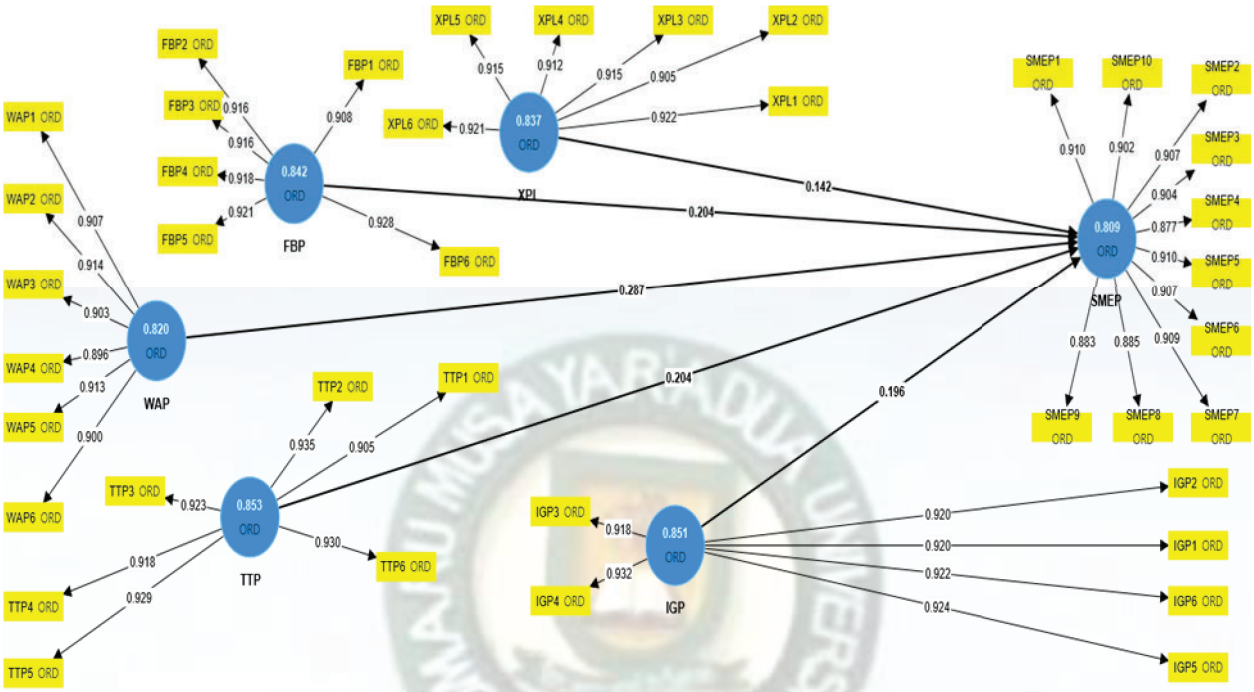


Figure 1: Path Diagram of Measurement (Outer) Model

4.5 Convergent Validity

Convergent validity refers to the degree to which the indicators of a latent construct converge in measuring the same conceptual domain (Hair et al., 2022; Fornell&Larcker, 1981). The present study evaluated convergent validity using the Average Variance Extracted (AVE), which represents the amount of variance captured by a construct relative to the variance attributable to measurement error. According to Hair et al. (2014), AVE values of at least 0.50 are indicative of acceptable convergent validity. The results reported in Table 3 reveal that all constructs recorded AVE values ranging from 0.809 to 0.853, demonstrating that the constructs explained approximately 83.1% of the variance in their observed indicators and thus satisfied the recommended convergent validity criteria.

4.6 Discriminant Validity

Discriminant validity examines the degree to which a construct is empirically separable from other constructs in a model, thereby confirming that each construct uniquely represents a specific theoretical dimension. In the present study, discriminant validity was assessed using the Fornell–Larcker criterion and the Heterotrait–Monotrait Ratio (HTMT), in line with the recommendations of Hair et al. (2014). Prior literature suggests that discriminant validity is demonstrated when indicators exhibit their strongest associations with their corresponding constructs rather than with alternative constructs in the model (Hair et al., 2022; Henseler et al., 2015). Moreover, the Fornell–Larcker criterion requires that the square root of a construct's AVE surpass its correlations with other constructs, thereby providing further evidence of discriminant validity.

Table 4 Depicting Discriminant Validity- Fornell-Lacker Criterion

	FBP	IGP	SMEP	TTP	WAP	XPL
FBP	0.918					
IGP	0.829	0.923				
SMEP	0.903	0.896	0.899			
TTP	0.835	0.821	0.894	0.923		
WAP	0.865	0.86	0.924	0.838	0.905	
XPL	0.834	0.82	0.888	0.835	0.852	0.915

Source: Author's Computation (2026) using Smart PLS 4.0.9.9 released 2023

As evidenced in the table 4 above, the square roots of AVE for FBP (0.918), IGP (0.923), SMEP (0.899), TTP (0.923), WAP (0.905), and XPL (0.915) exceed the corresponding inter-construct correlations. This result demonstrates that all constructs are empirically distinct and satisfy the discriminant validity criterion.

4.7Assessment of Significance of the Structural (Inner) Model

The structural model in PLS-SEM illustrates the hypothesized causal relationships among latent constructs. Assessment of the inner model focuses on determining the magnitude, direction, and significance of these hypothesized links to evaluate the validity of the proposed theoretical framework (Hair et al., 2014; Henseler et al., 2015). Path coefficients (β) are used to quantify the relationships between constructs, indicating both effect size and direction. Statistical significance of these coefficients is assessed using bootstrapping, a non-parametric resampling approach that produces multiple subsamples from the original data, allowing estimation of standard errors, t-values, and confidence intervals without assuming normality (Hair et al., 2017; Henseler et al., 2015).

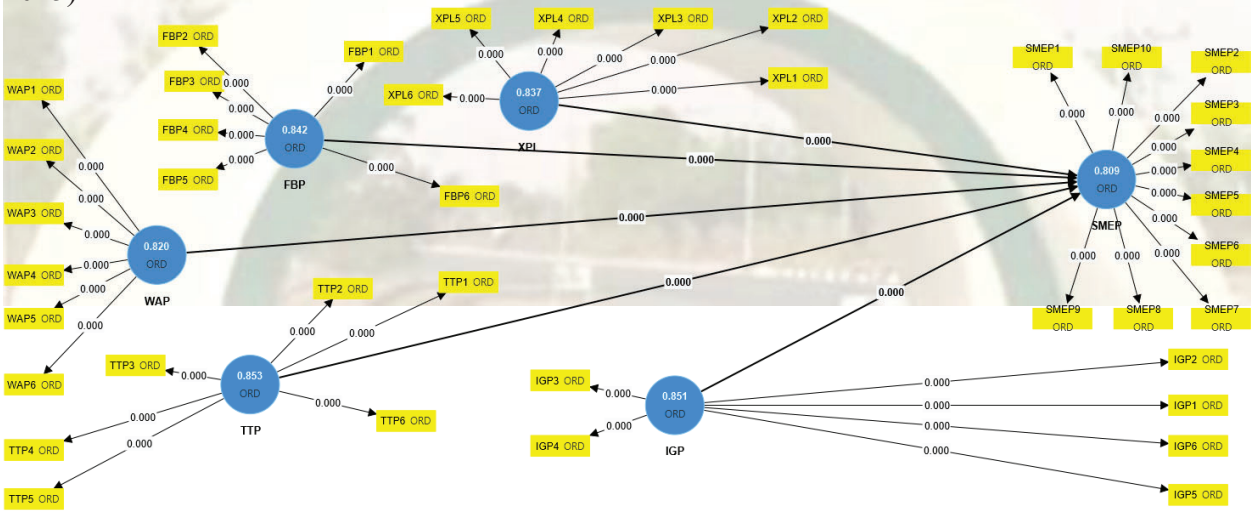


Figure 2: Path Diagram of Structural (Inner) Model

4.8Hypothesis testing for the Direct Relationship of theVariables

The following section evaluates the direct relationships between Social Media Usage, as the exogenous construct, and Small and Medium Enterprises performance, the endogenous construct. As specified in the study's hypotheses, Table 6 provides the estimated path coefficients, along with their corresponding t-values and p-values, for these direct effects. The study adopted a t-value greater than 1.96 as the threshold for statistical significance at the 5% level ($p < 0.05$) in testing the hypothesized relationships. The null hypothesis (H_0) asserts that the path coefficients (β) for the influence of the Facebook, Instagram, TikTok, WhatsApp, and X (Twitter) dimensions of Social Media Usage on SME performance do not differ significantly from zero.

Table 6 Path Coefficients for Direct Effects in the Inner Model

Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Decision
FBP -> SMEP	0.204	0.204	0.033	6.201	0.000	Accepted
IGP -> SMEP	0.196	0.197	0.034	5.779	0.000	Accepted
TTP -> SMEP	0.204	0.204	0.035	5.806	0.000	Accepted
WAP -> SMEP	0.287	0.287	0.035	8.138	0.000	Accepted
XPL -> SMEP	0.142	0.141	0.030	4.735	0.000	Accepted

Source: Author's Computation (2026) using Smart PLS 4.0.9.9 released 2023

The study's first hypothesis (H1) asserts that the use of social media platforms, including Facebook, Instagram, TikTok, WhatsApp, and X (Twitter), is positively associated with Small and Medium Enterprises performance, in opposition to the null hypothesis (H0).Table 6 of the first H01: provides a summary of the relevant data, indicating thatFacebook platform is positive and significant effects on SME performance with ($\beta = 0.204$, $t = 6.201$, $p < .001$). Based on this the study reject the null hypothesis (H_0) and accept the alternative hypothesis, indicating that Facebookplatform significantly influences Small and Medium Enterprises performance in Katsina State.

H02: The structural path coefficient in Table 6 shown Instagram platform positively and significantly affects SME performance with ($\beta = 0.196$, $t = 5.779$, $p < .001$).Consequently, the null hypothesis (H_0) is rejected, and the alternative hypothesis is accepted, indicating that

Instagram platform significantly affects Small and Medium Enterprises performance in Katsina State.

H03:From the illustrated in Table 6 revealed that Tiktok platform has a positive and significant relationship on SME performance with ($\beta = 0.204$, $t = 5.806$, $p < .001$).The results lead to the rejection of H_0 and the acceptance of the alternative hypothesis means that Tiktok platform significantly positive on SME performance in Katsina State.

H04:From the data summarized in Table 6 indicate that Whatsaap platform is positive and significant relationship with SME performance with ($\beta = 0.287$, $t = 8.138$, $p < .001$).The evidence from the analysis allows for the rejection of the null hypothesis and the acceptance of the alternative hypothesis, indicating that Whatsaap platform significantly influence on SME performance in Katsina State

H05:the result presented in table 6 surmised that X (twitter) has appositive influence on SME performance with ($\beta = 0.142$, $t = 4.735$, $p < .001$).On the basis of the findings, the null hypothesis is rejected in favour of the alternative hypothesis, indicating that X (twitter) is positive affect SME performance in Katsina State

4.9Coefficient of Determination: R-Squared

R^2, the coefficient of determination, reflects the extent to which the independent variables explain variance in the dependent variable. Hair Jr. et al. (2017) identify R^2 as a fundamental metric for evaluating the explanatory capacity of a structural model. In terms of interpretation, Hair et al. (2021) consider R^2 values of 0.75, 0.50, and 0.25 as substantial, moderate, and weak, respectively, while Cohen (1988) categorizes values around 0.26, 0.13, and 0.02 as large, medium, and small effect sizes.

Table 7 revealed Coefficient of Determination: R-Squared

	R-square	R-square adjusted
SMEP	0.933	0.932

Source: Author's Computation (2026) using Smart PLS 4.0.9.9 released 2023

From table 7, the coefficient of determination for SMEP is 0.933, and the adjusted R^2 is 0.932, showing that the model accounts for 93.3% of the variance in SME performance. The close values of R^2 and adjusted R^2 confirm the robustness and strong explanatory capacity of the model.

4.10. Discussion of Findings

This study investigates the direct impact of social media usage on the performance of SMEs in Katsina State. Social media usage is operationalized through five dimensions: Facebook, Instagram, TikTok, WhatsApp, and X (Twitter). The research seeks to assess how each of these dimensions contributes to enhancing SME performance, with the structural model analysis offering insights into the relative predictive strength of these social media factors.

Facebook usage found to be positive and statistically significant effect on the performance of Small and Medium Enterprises.This finding suggests that increased adoption and effective use of Facebook as a business platform leads to measurable improvements in SME performance in terms of sales growth, customer reach, brand visibility, and overall competitiveness. In order words Facebook is not merely a communication tool but a strategic digital resource that contributes meaningfully to business outcomes. The strong t-statistic further confirms the robustness of the relationship, indicating that the observed effect is not due to chance.The findings of this study are consistent with prior empirical research (Alraja et al., 2020; Okonkwo&Eze, 2019; Richard et al., 2024; Sulaiman et al., 2021) who revealed that Facebook has positive effect on SME performance.

Instagram usage has a positive and statistically significant effect on the performance of Small and Medium Enterprises. This result is indicated by the path coefficient with (β=0.196 and t=5.779). This finding implies that increased adoption and effective utilization of Instagram as a business platform contributes meaningfully to improvements in SME performance consist of market competitiveness.The finding is strongly supported by the Technology Acceptance Model (TAM) which posits that the adoption and continued use of technology depend on its perceived usefulness and perceived ease of use. Instagram is widely perceived by SME owners as user-friendly, visually engaging, and effective for product promotion and customer interaction.The finding is consistent with prior empirical studies (Adeyemi&Olanrewaju, 2021; Akbar, 2021; Mamodu et al., 2019) who reported that .Instagram platforms significantly enhance SME performance through improved marketing effectiveness

The positive effect of TikTok platform usage on Small and Medium Enterprises means that as Tiktok increases, SME performance also increases by 0.204.This finding implies that increased adoption and effective utilization of TikTok as a business platform leads to improved SME performance in terms of customer engagement and market expansion.The result underscores the importance of encouraging SMEs to adopt and strategically utilize TikTok to enhance competitiveness, growth, and sustainability.The findings of this study corroborate the prior empirical studies (Adewale&Ojo, 2022; Krismajayanti et al., 2023; Okafor& Ibrahim, 2023) who found that tiktok is positively influence SME performance

WhatsApp platform usage has a positive and highly significant effect on the performance of Small and Medium Enterprises. This is the most used platform among the examined social media platforms in this study, this result suggests that WhatsApp exerts one of the strongest influences on SME performance, highlighting its strategic importance in enhancing business outcomes such as customer retention, , service efficiency, and relationship management.The findings are consistent with prior empirical research (Abdullahi&Sani, 2023; Issaka, 2024; Richard et al., 2023) found that whatsaap platforms significantly enhance SME performance by improving communication efficiency and customer engagement.

X (Twitter) platform usage has a positive and significant influence on SME performance, supported by Technology Acceptance Model. The findings highlight X's role as a valuable digital communication and engagement platform for SMEs. While its impact may be smaller compared to other platforms, X remains an important tool for information sharing, customer engagement, and market responsiveness.The positive influence found in this study suggests that SMEs that actively engage on X are better able to adapt to dynamic market conditions and enhance performance.The findings are consistent with prior studies that report a positive relationship between social media usage and SME performance (Abdullahi, 2022; Adebayo &Olatunji, 2021; Musa &Abdullahi, 2023) found that social media platforms improve marketing effectiveness and firm performance by enhancing customer interaction and market intelligence.

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The study concludes that facebook, Instangram, Tiktokwhatsaap and X (Twitter) positively and significantly influence SME performance in Katsina State. This implies that enhancing these social media usage dimensions strengthens SME performance. The positive effects suggest that SMEs that strategically invest in social media marketing are likely to experience performance improvements. However, ineffective content management and inadequate digital skills may limit these benefits, highlighting the need for proper training and strategic oversight for effective SME performance

5.2 Recommendation

i. Small and Medium Enterprises owners and managers should strategically integrate Facebook into their core business operations by setting clear goals for sales, customer engagement, and brand awareness. Consistent content creation and prompt customer interaction are essential for maximizing visibility and performance.
ii. Small and Medium Enterprises should be encouraged to leverage Instagram not merely as a social media platform but as a strategic, visually driven marketing resource that enhances customer engagement, strengthens brand identity, and improves market competitiveness when effectively utilized.

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