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Digipreneurship and Performance of Mobile Telecommunication Firms in Port Harcourt

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Abstract

This study examined the relationship between digipreneurship and performance of mobile telecommunication firms in Port Harcourt. The correlational research design was adopted. 20 respondents (managers) drawn from 4 mobile telecommunication firms ((MTN, Globalcom, Airtel and Etisalat) in Port Harcourt were used for the study. A structured questionnaire was used for the collection of primary data for the study. Spearman Rank Order Correlation (r) was used for the test of hypotheses at 0.01 level of significance. Findings revealed that there is a significant relationship between digipreneurship (mobile app and whatsapp business) and performance (service delivery and profitability) of mobile telecommunication firms in Port Harcourt. The study concluded that digipreneurship correlate with performance. Among others, study recommended that mobile telecommunication firms should adopt AI-driven chatbots into their mobile apps, to enable them offer 24/7 real-time assistance for common inquiries such as data plans, account balances, network issues, and service subscriptions, as such would reduce customer wait time, ensure prompt responses, and enhance overall user satisfaction, thereby improving service delivery efficiency.

Keywords: *Digipreneurship, Mobile App, Whatsapp Business, Performance, Service Delivery and Profitability*

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Background to the Study

The telecommunication sector has long been one of the pillars of the Nigerian economy, which is heavily reliant on its services sector. The telecommunication sector is a major contributor to the economy of Nigeria and provides the foundations for the digital transformation process (Temitayo, 2024). The above indicates that their performance is essentially directed towards the determination of their longevity in business. At its core, performance refers to how effectively a company achieves its goals, maximizes employee productivity and maintains a competitive edge (Dutta, 2025). Performance is a multidimensional concept thus has been studied using different metrics. However, performance among others is measured in terms of service delivery and profitability.

Service delivery refers to the consistent and efficient provision of services that meet or exceed customer expectations. It serves as a crucial measure of organizational performance in telecom firms. It encompasses aspects such as service quality, timeliness, reliability, and customer responsiveness. In a competitive telecommunication industry, the ability of firms to deliver services promptly and accurately directly influences customer satisfaction and loyalty (Adebayo & Dada, 2020). Efficient service delivery reflects a firm's operational excellence and is often used as a benchmark for assessing productivity and market competitiveness (Osuagwu & Obumneke, 2013). Poor service delivery can lead to customer churn, reduced revenue, and reputational damage, while excellent delivery enhances customer retention and brand equity (Kotler & Keller, 2016). Mobile telecommunication firms deploy customer relationship management systems and quality assurance tools to track and improve service delivery outcomes (Ajagbe et al., 2015). Furthermore, regulatory compliance and technological innovation also play a significant role in shaping effective service delivery (Ndukwe, 2011). Performance metrics such as response time, fault resolution rate, and service uptime are commonly used to measure service delivery effectiveness. As such, service delivery acts not only as an indicator of customer-centric performance but also reflects the strategic agility of telecom firms (Ayoade & Adeoye, 2022). Continuous improvement in this area is essential for sustaining competitive advantage in a rapidly evolving digital environment.

Profitability reflects a firm's ability to generate earnings relative to its expenses and other costs. In mobile telecommunication firms, profitability indicates financial health, market competitiveness, and operational efficiency. It is typically assessed using financial metrics such as net profit margin, return on assets (ROA), and return on equity (ROE), which demonstrate how well the firm converts revenue into profit (Pandey, 2015). Profitability also enables reinvestment into infrastructure, innovation, and service expansion, which are crucial in the dynamic telecom industry (Kotler & Keller, 2016). Higher profitability often correlates with better stakeholder confidence and long-term sustainability. It influences strategic decisions, such as pricing, market entry, and customer retention efforts (Kaplan & Norton, 2004). In an environment driven by rapid technological change, maintaining profitability requires cost control, efficient resource allocation, and strong customer acquisition strategies. As such, profitability is not only a financial metric but also a reflection of overall organizational performance.

In a fast-paced, technology and globalization driven society, the performance of firms is increasingly traceable to digipreneurship. As digital innovation reshapes customer expectations and market dynamics, firms that adopt digital entrepreneurship strategies tend to outperform those that rely solely on traditional models (GoLive Technologies, 2023; Adams, 2025; Chukwuka & Abude, 2024). Digipreneurship, a blend of "digital" and "entrepreneurship," refers to the use of digital technologies to create, manage, and grow business ventures (Kraus et al., 2019). It emphasizes leveraging digital tools such as websites, mobile applications, social media, e-commerce platforms, and communication technologies to innovate business models and engage customers. In the context of service-oriented firms like those in telecommunications, digipreneurship is essential for delivering efficient, scalable, and customer-centric services. Key dimensions of digipreneurship include digital product development, social media engagement, e-commerce integration, and data-driven decision-making (Afif et al., 2023). These dimensions enable businesses to operate efficiently, reach broader markets, and respond swiftly to customer needs. In service industries like telecommunications, digipreneurship also covers platform-based service delivery and automated customer support. Effective use of digipreneurial tools enhances service convenience and user satisfaction and high performance. As such, digipreneurship is essential for sustainable innovation in today's digital economy. In this digital age, digitalization has become a major force that is significantly changing the world of business and economy (Musnaini et al., 2020). This has driven entrepreneurs into the adoption of digipreneurship in the practice of their business, even among mobile telecommunication firms. However, this study dimensionlized digipreneurship into mobile app and whatsapp business.

A mobile app is a digital platform that enables entrepreneurs to deliver services, engage customers, and facilitate transactions through smartphones and other mobile devices. As a tool of digital entrepreneurship, mobile apps enhance accessibility, user experience, and real-time interaction, which are essential for scaling modern businesses (Nambisan, 2017). Mobile apps allow digipreneurs to create value through customized interfaces, push notifications, and integrated payment systems, thus streamlining operations and improving customer satisfaction (Zhao, 2020). These applications offer scalability and automation, reducing overhead costs while expanding market reach (Ndubisi & Malhotra, 2021). In emerging economies, mobile apps have become a preferred channel for delivering goods, services, and digital content, fostering innovation and job creation (World Bank, 2016). Entrepreneurs leverage app analytics to make data-driven decisions and optimize business strategies. The agility offered by mobile apps supports the iterative nature of digital entrepreneurship, where rapid prototyping and user feedback are key (Sussan & Acs, 2017). Furthermore, the integration of social media and e-commerce functionalities in apps enhances marketing and monetization opportunities.

WhatsApp Business is a free mobile application developed by Meta (formerly Facebook) specifically for small and medium-sized businesses to facilitate direct and professional communication with customers. Designed specifically for business use, the app allows digipreneurs to create business profiles, automate responses, and organize customer interactions, thus enhancing professionalism and trust (Mason & Lobel, 2020). With features

like catalog displays, labels, and broadcast messaging, WhatsApp Business supports product visibility and customer engagement at minimal cost (Ajibade, 2021). It is especially transformative in emerging markets where traditional digital infrastructure is limited but mobile penetration is high (World Bank, 2016). Entrepreneurs use it for digital marketing, client support, and direct sales, thereby reducing reliance on physical storefronts (Chatterjee & Nguyen, 2022). The platform facilitates real-time communication and fosters personalized customer relationships, which are vital for brand loyalty. It also supports multimedia sharing (images, videos, documents) enabling richer promotional content. WhatsApp Business thus serves as a low-barrier, high-impact digital tool for entrepreneurs, accelerating inclusion in the digital economy. As such, it exemplifies how mobile-first solutions are reshaping entrepreneurship in the digital era.

As mobile telecommunication firms face increasing competition and rapidly changing consumer behavior, integrating digital entrepreneurial practices has become critical to maintaining operational efficiency and customer satisfaction (Nambisan, 2017). Port Harcourt, a commercial hub in South-South Nigeria, presents a dynamic environment where digital innovation can significantly influence firm performance. However, there is limited empirical evidence on how digipreneurship drives service excellence and profitability in this locality. Understanding this relationship will provide valuable insights for strategic decision-making, especially in leveraging digital tools for business growth among mobile telecommunication firms. Given the economic importance of telecommunications, the study examined the relationship between digipreneurship and performance of mobile telecommunication firms in Port Harcourt.

State of the Problem

There appears to be frequent network downtimes, delayed customer support, unresolved service issues and poor profitability, leading to customer dissatisfaction among firms. More so, the persistent decline in telecom service quality has reignited calls for increased investment in the sector, as subscribers continue to experience issues with weak signal strength and poor network performance (Justice, 2024), thus affecting their profitability. Among others, these shortcomings could be caused by outdated infrastructure or poor digipreneurship in mobile telecommunication firms as evident in their underdeveloped mobile apps and ineffective use of WhatsApp Business.

Many of their mobile apps are slow, difficult to navigate, and lack essential features that enhance user experience, such as real-time support or seamless payment options. These shortcomings frustrate customers and discourage digital engagement. Similarly, their WhatsApp Business platforms are often poorly managed, with delayed responses, generic automated replies, and lack of personalized interaction. This reflects a weak understanding of digital customer relationship management. The absence of innovation and adaptability in these digital tools limits customer convenience as it reduces brand competitiveness, service delivery and profitability. As digital channels dominate customer interaction, these failures reveal a lack of digipreneurship in the telecommunication sector. From the foregoing, the researcher was geared to examine the relationship between digipreneurship and performance of mobile telecommunication firms in Port Harcourt.

Theoretical Framework

The study was anchored on Dynamic Capability Theory, propounded by David Teece, Gary Pisano, and Amy Shuen in 1997. The theory emphasizes a firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. The core assumption of the theory is that in dynamic markets, sustained competitive advantage does not stem solely from possessing valuable resources (as in the Resource-Based View) but from a firm's capacity to adapt, innovate, and transform these resources in response to technological and market shifts.

This framework is highly relevant in explaining the relationship between digipreneurship (mobile apps and whatsapp business) and performance metrics such as service delivery and profitability in mobile telecommunication firms in Port Harcourt. These firms operate in a fast-paced, tech-driven environment where customer expectations and digital trends evolve continuously. The adoption and dynamic use of mobile apps enable real-time customer service, self-service functionalities, and efficient data management, enhancing service delivery speed and quality. Similarly, WhatsApp Business facilitates personalized, low-cost customer communication, order processing, and product promotion, which not only improves service responsiveness but also boosts customer satisfaction and loyalty. Firms that demonstrate dynamic capabilities by integrating these digital tools into their operations are more likely to optimize internal processes, innovate service models, and respond swiftly to market demands, thereby improving service delivery and profitability. In essence, DCT underscores that it is not just the possession of digital technologies that matters, but the entrepreneurial capacity to reconfigure and deploy them effectively in changing environments like the competitive telecom sector in Port Harcourt. In the light of the above, the study anchored in the conceptual framework as shown below:

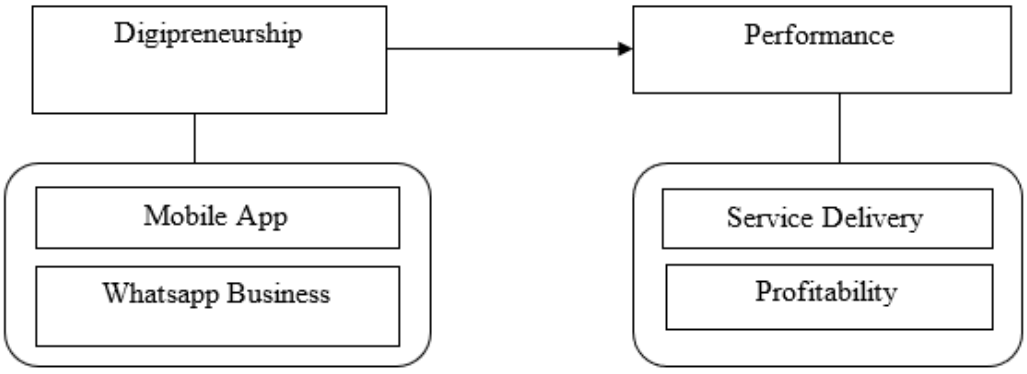

Fig. 1: Conceptual Framework Showing Relationship between Digipreneurship and Performance

Source: Researcher's Conceptualization, 2025.

Hypotheses

The following null hypotheses were formulated to guide the study:

Ho_1: There is no significant relationship between mobile app and service delivery of mobile telecommunication firms in Port Harcourt.

Ho_2: There is no significant relationship between mobile app and profitability of mobile telecommunication firms in Port Harcourt.

Ho_3: There is no significant relationship between whatsapp business and service delivery of mobile telecommunication firms in Port Harcourt.

Ho_4: There is no significant relationship between whatsapp business and profitability of mobile telecommunication firms in Port Harcourt.

Methodology

The study adopted the correlational research design. 20 respondents (managers) drawn from 4 mobile telecommunication firms (MTN, Globalcom, Airtel and Etisalat) in Port Harcourt were used for the study. These respondents cut across branch manager, customer experience manager, sales and marketing manager, human resources manager and account manager. Data were collected through a structured questionnaire which was designed in a modified four-point likert scale format with the following response options: Strongly Agreed (SA) 4, Agreed (A) 3, Disagreed (D) 2, and Strongly Disagreed (DS) 1. The instrument was validated by two entrepreneurship and management experts. The reliability coefficient of the instrument (0.78) was elicited using Crombach Alpha. Spearman Rank Order Correlation (r) was used for the test of hypotheses. A bivariate analysis (test of hypothesis) was done using SPSS Version 23 at 0.01 level of significance.

Results

Ho_1: There is no significant relationship between mobile app and service delivery of mobile telecommunication firms in Port Harcourt.

Table 1: Mobile App and Service Delivery

		Mobile App	Service Delivery
Mobile App	Correlation Coefficient	1.000	.601**
	Sig. (2-tailed)	.	.000
	N	20	20
Service Delivery	Correlation Coefficient	.601**	1.000
	Sig. (2-tailed)	.000	.
	N	20	20

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

Table 1 above shows r value of 0.601 at a significance level of 0.00 which is less than the chosen alpha level of 0.01. Since the significance value 0.000 is less than the alpha level of 0.01, the null hypothesis (Ho_1) which states that there is no significant relationship between mobile app and service delivery of mobile telecommunication firms in Port Harcourt was rejected and the

alternate hypothesis accepted. This implies that there is a significant relationship between mobile app and service delivery of mobile telecommunication firms in Port Harcourt.

Ho_2: There is no significant relationship between mobile app and profitability of mobile telecommunication firms in Port Harcourt.

Table 2: Mobile App and Profitability

		Mobile App	Profitability
Mobile App	Correlation Coefficient	1.000	.683**
	Sig. (2-tailed)	.	.000
	N	20	20
Profitability	Correlation Coefficient	.683**	1.000
	Sig. (2-tailed)	.000	.
	N	20	20

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

Table 2 above shows r value of 0.683 at a significance level of 0.00 which is less than the chosen alpha level of 0.01. Since the significance value 0.000 is less than the alpha level of 0.01, the null hypothesis (Ho_2) which states that there is no significant relationship between mobile app and profitability of mobile telecommunication firms in Port Harcourt was rejected and the alternate hypothesis accepted. This implies that there is a significant relationship between mobile app and profitability of mobile telecommunication firms in Port Harcourt.

Ho_3: There is no significant relationship between whatsapp business and service delivery of mobile telecommunication firms in Port Harcourt.

Table 3: Whatsapp Business and Service Delivery

		Whatsapp Business	Service Delivery
Whatsapp Business	Correlation Coefficient	1.000	.729**
	Sig. (2-tailed)	.	.000
	N	20	20
Service Delivery	Correlation Coefficient	.729**	1.000
	Sig. (2-tailed)	.000	.
	N	20	20

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

Table 3 above shows r value of 0.729 at a significance level of 0.00 which is less than the chosen alpha level of 0.01. Since the significance value 0.000 is less than the alpha level of 0.01, the

null hypothesis (Ho_3) which states that there is no significant relationship between whatsapp business and service delivery of mobile telecommunication firms in Port Harcourt was rejected and the alternate hypothesis accepted. This implies that there is a significant relationship between whatsapp business and service delivery of mobile telecommunication firms in Port Harcourt.

Ho_4: There is no significant relationship between whatsapp business and profitability of mobile telecommunication firms in Port Harcourt.

Table 4: Whatsapp Business and Profitability

		Whatsapp Business	Profitability
Whatsapp Business	Correlation Coefficient	1.000	.641**
	Sig. (2-tailed)	.	.000
	N	20	20
Profitability	Correlation Coefficient	.641**	1.000
	Sig. (2-tailed)	.000	.
	N	20	20

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

Table 4 above shows r value of 0.641 at a significance level of 0.00 which is less than the chosen alpha level of 0.01. Since the significance value 0.000 is less than the alpha level of 0.01, the null hypothesis (Ho_4) which states that there is no significant relationship between information shairng and profitability of mobile telecommunication firms in Port Harcourt was rejected and the alternate hypothesis accepted. This implies that there is a significant relationship between whatsapp business and profitability of mobile telecommunication firms in Port Harcourt.

Discussion of Findings

The analyses of data revealed that there is a significant relationship between the dimensions of digipreneurship and measures of performance of mobile telecommunication firms in Port Harcourt. The findings are similar to Soltanifar et al. (2020) which averred that digipreneurship impacts positively on business and society. More so, the study findings are in consonance with the works of Abudaqa and Noburu (2024) which stated that digipreneurship plays an important role in business innovation and market expansion. Drawing from the above, mobile apps enable telecom firms to offer self-service features such as airtime purchase, data subscription, account management, and complaint resolution, all in real-time. This reduces waiting time, increases customer satisfaction, and improves operational efficiency. WhatsApp business further boosts service delivery by allowing firms to engage customers directly through instant messaging, send updates, process requests, and resolve inquiries quickly and conveniently. These tools lower communication costs and human resource demands, while ensuring round-the-clock availability. They also provide valuable data

analytics, enabling firms to personalize services, predict customer needs, and improve decision-making. Enhanced digital interaction strengthens customer relationships and loyalty, leading to repeat patronage and reduced churn (Aarthy et al., 2024). Profitability increases as operational costs decline and market reach expands through digital engagement. In competitive markets like Port Harcourt, leveraging digital platforms allows mobile telecommunication firms to stay agile, innovative and customer-centric.

Conclusions

Based on the findings, the study concluded that digipreneurship correlate with performance of mobile telecommunication firms in Rivers State.

Recommendations

Based on the results and conclusions, the following recommendations were made:

1) Mobile telecommunication firms should adopt AI-driven chatbots into their mobile apps, to enable them offer 24/7 real-time assistance for common inquiries such as data plans, account balances, network issues, and service subscriptions, as such would reduce customer wait time, ensure prompt responses, and enhance overall user satisfaction, thereby improving service delivery efficiency.
2) Mobile telecommunication firms can integrate intelligent recommendations within the app to suggest higher-value bundles, premium services (e.g., entertainment subscriptions), or add-ons based on user behavior and usage patterns as such would increase average revenue per user (ARPU), which is a direct booster to profitability.
3) Management should connect application programming interface to a cloud contact-centre or CRM platform and multiple agents to simultaneously manage incoming tickets, hand-off complex issues, and track resolution times in one dashboard.
4) Mobile telecommunication firms should optimize the WhatsApp Business Catalog feature to showcase data bundles, airtime packages, and subscription plans. Coupled with quick replies and automated messages, this setup enables faster transactions and encourages upselling, thus boosting revenue.

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