

# **The Use of Information Systems to transform Small Businesses in Nigeria**

## **Introduction**

Small businesses play a pivotal role in Nigeria's economy, contributing significantly to job creation, GDP growth, and poverty alleviation. In recent years, these businesses have been increasingly adopting information systems (IS) to streamline operations, improve decision-making, and enhance their competitive advantage. This literature review aims to provide a comprehensive understanding of the role of IS in transforming small businesses in Nigeria, drawing upon existing research and identifying key themes and gaps.

## **Understanding Information Systems**

The concept of IS has been explored and examined from various angles by researchers, offering multiple perspectives that shed light on its multifaceted nature. These perspectives not only enrich our understanding of IS but also highlight their critical role in the transformation of small businesses. Reily (2022) viewed IS as a combination of hardware, software, and telecommunication networks that people use to collect, store, process, and distribute data and information. This view underscores the essential technological elements that underpin the operations of IS. It places its primary emphasis on the intricate interplay between the hardware and software components that constitute IS. Within this framework, the technical infrastructure stands as a fundamental pillar for the effective functioning of IS.

Another pivotal perspective is the organisational viewpoint. Here, IS are seen as a means to facilitate, bolster, and optimize the various processes and functions within an

organisation or business. Laudon and Laudon (2020) encapsulate this perspective by characterizing IS as formal, socio-technical systems designed to collect, process, store, and disseminate information within an organisation. Within this context, IS are recognised as integral tools for improving the overall efficiency and effectiveness of business activities. Furthermore, the strategic perspective brings into focus the pivotal role that IS play in aligning with organisational goals and securing a competitive edge. According to proponents of this perspective, such as Williams (2023), IS can be strategically leveraged by businesses to achieve objectives like product differentiation, or a focus on niche markets. Here, IS cease to be mere tools and become strategic assets that can propel organisations ahead in the highly competitive business landscape. Together, these perspectives create a comprehensive framework for understanding and harnessing the power of IS to transform small businesses in Nigeria.

### **The Digital Transformation Landscape in Small Businesses**

The landscape of digital transformation, fuelled by the widespread adoption of IS, has evolved into a global phenomenon with the potential to redefine the operational landscape of small businesses. As businesses across the world increasingly recognize the strategic value of digital technologies, the impact of IS on small enterprises has become a subject of significant interest and research. Haldorai and Anandakumar (2020) highlighted the profound influence of IS on various dimensions of business operations, ranging from the fundamental restructuring of internal processes to the cultivation of organisational agility and the stimulation of innovative practices. These findings have broad implications, suggesting that small businesses can harness the power of IS to not only survive in the digital age but also thrive by leveraging technology to their advantage.

However, it is crucial to recognize that the implementation of digital transformation initiatives in the specific context of Nigerian small businesses necessitates a nuanced examination. While the core principles of digital transformation may apply universally, the Nigerian business environment presents unique challenges and opportunities that demand careful consideration. Olakunle and Wynn (2022) underscored the pivotal role of IS as a catalyst for transformation within small businesses in Nigeria. Their study highlights that the adoption of IS has the potential to drive fundamental changes in how small businesses operate, compete, and innovate within the Nigerian business landscape. Hence, embracing IS is not merely an option; it is a pathway to resilience, competitiveness, and growth within the ever-evolving Nigerian business landscape.

Similarly, Olayinka (2020) aptly emphasize the transformative potential of IS in bolstering operational efficiency within Nigerian small businesses. The IS, by virtue of automating repetitive tasks and optimizing core processes, serve as a linchpin in streamlining workflows, thereby leading to more efficient operations. This streamlined efficiency translates into tangible benefits for these businesses, including reductions in operational costs, improved resource allocation, and enhanced responsiveness to market demands. By automating manual tasks, managing inventory more efficiently, and providing real-time data insights, IS empower small businesses to not only survive but also thrive in the face of diverse operational challenges, ultimately contributing to their resilience and competitive positioning in the Nigerian market.

Furthermore, (Addah & Omogbiya, 2023) provided valuable insights into the transformative role that IS play in reshaping decision-making processes within small businesses in Nigeria. In a business environment marked by rapid changes, fierce

competition, and evolving consumer preferences, the ability to make well-informed and data-driven decisions has become a critical determinant of success. The IS serve as powerful enablers in this regard, offering Nigerian small businesses the means to collect, analyse, and interpret data with a level of efficiency that was previously unattainable. By efficiently gathering and processing data from various sources, ranging from customer behaviours to market trends, IS equip small businesses with the insights needed to respond proactively to dynamic shifts in the business landscape. This capacity for data-driven decision-making is particularly vital in Nigeria, where adaptability and agility are paramount. Small businesses that harness the capabilities of IS not only enhance their competitiveness but also position themselves to seize opportunities and navigate challenges effectively, ultimately contributing to their growth and sustainability in Nigeria's ever-evolving business arena.

Overall, the transformative influence of IS in small business operations is a well-established and evolving field of study. It encompasses various dimensions of operational enhancement and strategic growth, as evidenced by the scholarly research and empirical findings discussed above. Understanding and harnessing this transformative potential is key to the long-term success and sustainability of small businesses in the digital age.

### **Challenges to Information System Adoption in Nigerian Small Businesses**

The IS adoption in Nigerian small businesses presents a critical avenue for enhancing operational efficiency and competitiveness. However, this adoption process is fraught with various challenges. A substantial body of research has underscored the significant financial constraints that Nigerian small businesses grapple with when endeavouring to adopt information systems (Gbadegeshin, et al., 2019; Igudia, 2017).

They averred that small businesses often encounter prohibitive costs associated with the initial procurement and implementation of information systems. They further opined that the ongoing financial commitments required for system maintenance, regular updates, and the recruitment of skilled personnel consistently exceed the available budgetary allocations. Consequently, these financial limitations continue to serve as a substantial impediment, hindering the comprehensive integration of IS within the landscape of Nigerian small businesses. This financial barrier not only hampers their capacity to leverage the transformative potential of technology but also perpetuates disparities in competitiveness within the business ecosystem.

Within the domain of technological infrastructure deficits, Gumel (2019) shed light on the enduring and multifaceted challenges that act as formidable barriers to the widespread adoption of IS in Nigeria. The study revealed that these challenges encompass unreliable power supply, subpar internet connectivity, and an inadequate technology infrastructure. These deficiencies converge to create a substantial obstacle, one that obstructs the full realization of the potential benefits offered by IS while concurrently eroding their dependability and efficiency. Consequently, the enduring presence of this infrastructure gap serves as a pivotal and persistent hindrance on the path toward digital transformation for small businesses, perpetuating a landscape where their growth and competitiveness are stifled by these foundational technological shortcomings.

Skills gap presents a critical and multifaceted challenge, with a central facet being the alarming shortage of qualified IT professionals within the Nigerian small business sector. Sadiq et al (2022) underscore this issue, emphasizing the glaring scarcity of

individuals possessing the requisite technical knowledge and expertise needed to effectively manage and maintain IS. This deficiency in IT talent has profound ramifications for the daily operations of businesses. Without skilled IT professionals, small businesses encounter hurdles ranging from the setup and configuration of information systems to troubleshooting technical issues that may arise. The consequence is often suboptimal utilization of these systems, which hampers productivity and limits the ability of these businesses to harness the full spectrum of advantages offered by information technology. In essence, the skills gap manifests as a bottleneck in the operational efficiency and competitive potential of Nigerian small businesses, making it imperative to address this dearth of IT expertise for sustainable growth and innovation in the digital era.

Security concerns represent a pivotal challenge in the context of information system adoption among Nigerian small businesses. Extensive research underscores the profound implications of security apprehensions, which are rooted in factors such as data breaches, cyberattacks, and privacy breaches. Studies, including those by Aguboshim et al (2023) and Mohammed & Tejay (2017), emphasize the critical nature of trust and security in the decision-making process surrounding information system adoption. Nigerian small businesses, akin to global counterparts, often grapple with apprehensions about the safety and integrity of their data and operations (Taiwo, et al., 2018). These concerns, while legitimate, can significantly impede the adoption of IS, particularly those involving sensitive customer data or financial transactions. Consequently, the mitigation of security risks and the establishment of robust security protocols are indispensable prerequisites for fostering a conducive environment for information system adoption in

Nigerian small businesses, unlocking their potential for growth and competitiveness in an increasingly digitized business landscape.

## **Research Gap**

The existing body of literature on IS adoption in small businesses in Nigeria has extensively examined the benefits and challenges associated with this technological transformation (Haldorai & Anandakumar, 2020; Olakunle & Wynn, 2022; Olayinka, 2020; Gbadegeshin, et al., 2019; Gumel, 2019; and Sadiq, et al., 2022). While the existing literature skilfully dissects the internal factors and operational intricacies associated with IS adoption, it conspicuously neglects the external forces, notably government policies in Nigeria, which wield substantial influence over the trajectory of small businesses in their quest to harness the full potential of information technologies. This omission underscores the pressing need to unravel the intricate interplay between government interventions and the strategic adoption of IS by small businesses, thereby enriching the comprehensive understanding of this multifaceted phenomenon.

Government policies, regulations, and incentives wield significant influence over the business environment (Obananya, 2022). Therefore, it is imperative to comprehensively understand how these policies affect IS adoption in small businesses. Addressing this gap not only holds the potential to yield valuable insights into the intricate policy and regulatory landscape surrounding IS adoption in small businesses within Nigeria but also offers the opportunity to provide critical guidance to policymakers and stakeholders. It can also unearth a deeper comprehension of the complex interactions between government policies, support mechanisms, and small business technological adoption. This understanding can shed light on the intricacies of IS integration in small

enterprises and help in devising well-informed strategies and policy measures. Furthermore, it will help to discern best practices and lessons learned from global experiences in supporting IS adoption in small businesses, which can serve as a foundation for more effective policymaking locally. In essence, bridging this research gap is not only an academic endeavour but also an avenue for making tangible contributions to the development of a conducive ecosystem that empowers small businesses in Nigeria to harness the full potential of information technologies, thereby fostering economic growth and technological advancement.

## **Conclusion**

The IS, viewed from various angles, enriches the understanding of their role in transforming small businesses. They are not just tools but strategic assets that drive efficiency, innovation, and competitiveness within the Nigerian business landscape. The digital transformation fuelled by IS adoption is a global phenomenon, profoundly impacting various dimensions of business operations. Nigerian small businesses can leverage IS to thrive in the digital age and drive fundamental changes in how they operate and compete.

However, the path to IS adoption in Nigerian small businesses is fraught with challenges. Financial constraints, infrastructure deficits, skills gaps, and security concerns pose formidable barriers to IS integration. Addressing these challenges is vital to unlocking IS's full potential. Furthermore, a critical research gap exists – the role of government policies in IS adoption among small businesses in Nigeria. Understanding how government interventions influence IS adoption is essential for policymakers and stakeholders. Overall, this review underscores the transformative potential of IS in



Nigerian small businesses. It emphasizes the need for research into the role of government policies in IS adoption. By doing so, individuals can contribute to the growth, innovation, and competitiveness of small businesses in Nigeria.

## References

- Addah, G. & Omogbiya, S. (2023). Big Data: An Indispensable Resource for Business Management in Nigeria. *Indonesian Journal of Strategic Management*, 6(1).
- Aguboshim, F., Obiokafor, I. & Emenike, A. (2023). Sustainable data governance in the era of global data security challenges in Nigeria: A narrative review. *World Journal of Advanced Research and Reviews*, 17(2), p. 378–385.
- Gbadegeshin, S. et al. (2019). Application of information and communication technology for internationalization of Nigerian small- and medium-sized enterprises. *The Electronic Journal of Information Systems in Developing Countries*, 85(1).
- Gumel, B. (2019). Mitigating the Challenges of Small and Medium Enterprises in Nigeria. *SEISENSE Journal of Management*, 2(3), pp. 82-99.
- Haldorai, A. & Anandakumar, S. (2020). Business Information System Culture in Global Organizations. *International Journal of Advanced Information and Communication Technology*, 7(12), pp. 204-212.
- Igudia, P. (2017). A Qualitative Evaluation of the Factors Influencing the Adoption of Electronic Payment Systems by SMEs in Nigeria. *European Scientific Journal*, 13(10), pp. 122-136.
- Laudon, K. & Laudon, J., (2020). Information Systems in Global Business Today. In: *Management Information Systems: Managing the digital firm*. 16th ed. Digital: Pearson Horizon, p. 6.
- Mohammed, Z. & Tejay, G., (2017). Examining privacy concerns and ecommerce adoption in developing countries: The impact of culture in shaping individuals' perceptions toward technology. *Computer Security*, Volume 67, pp. 254-265.
- Obananya, G., (2022). Government Policies and the Growth of Small and Medium Enterprises (SMEs) in Anambra State. *International Journal of Multidisciplinary Research And Analysis*, 3(2), pp. 458-465.

Olakunle, O. & Wynn, M., (2022). Digital Transformation in the Nigerian Small Business Sector. In: M. Wynn, ed. *Handbook of Research on Digital Transformation, Industry Use Cases, and the Impact of Disruptive Technologies*. s.l.:IGI Global, pp. 359-382..

Olayinka, O., (2020). The Adoption of e-business Technologies and Processes in Nigerian Small Business Enterprises. *Business Economics*, 1(1).

Reilly, D., (2022). Information Systems. In: D. Reilly, ed. *Contemporary Issues in Information Systems*. Liverpool: John Moores University, p. 2.

Sadiq, O., Hack-Polay, D., Fuller, T. & Rahman, M., (2022). Barriers to the Effective Integration of Developed ICT for SMEs in Rural Nigeria. *Businesses*, 2(4), pp. 501-526.

Taiwo, A., Bako, Y. & Olabimtan, A., (2018). Right to Privacy and its Effects on e-Commerce Adoption in Nigeria. *International Journal of Advanced Research*, 3(1), pp. 64-80.

Williams, O., (2023). Leveraging information systems for competitive advantage. *Business Studies Journal*, 15(3).