



Research Paper

# Chatbox advancement and business growth for online micro, small and medium enterprise in Nigeria

Larry Unachukwu

Department of Industrial Relations and Personnel Management, Michael Okpara University of Agriculture Umudike, Abia State.

Alexanda O.U. Kalu

Department of marketing, College of Management Sciences, Michael Okpara University of Agriculture Umudike, Abia State.

## ARTICLE INFO

### KEYWORDS :

Chatbox, business growth, MSMEs, Nigeria.

Received: 27 Jul 2025

Accepted: 10 Sep 2025

Available Online: 25 Oct 2025

© 2025 The authors. This is an open access article under the Creative Commons Attribution 4.0 International (CC BY 4.0) License.

## ABSTRACT

In recent time, micro, small and medium enterprises (MSMEs) has proven to be a bedrock through which nations can attain significant sustainable development and growth. Most emerging economies of the world has shown positive contribution of MSMEs to their real Gross Domestic Product (RGDP). Nigeria has not been left behind in this trend as the country has also leveraged on harnessing the bundles of benefit that MSMEs offers in growing its economy as this can be seen in the recent changes in their economic indexes. Chatbox advancement in recent time has changed the way in which most of the online businesses operates and has go a long way in improving customer experience and in the long run business growth. Chatbots are increasingly driving business growth in Nigeria by enhancing customer service, streamlining operations, and offering new avenues for digital engagement. They are particularly beneficial for financial institutions, allowing for 24/7 customer service and facilitating digital transactions. The technology also empowers small businesses to connect with customers, promote their products, and build stronger relationships. this study positions chatbot as a digital transformation tool to radically change business model, improve customer experience, and enhance financial inclusion in emerging markets.

## 1 | INTRODUCTION

In Nigeria, businesses are increasingly using technology to improve customer service. This includes chatbots, social media, mobile apps, and data analytics to offer faster, personalized service (Okolo, Kalu & Ugwueze, 2018; Kalu & Bashir, 2024). However, challenges such as unreliable internet, insufficient infrastructure, and a lack of tech skills among the population make it difficult to implement these technologies fully. Economic factors also play a role. The anticipated GDP growth of 3.1% in 2024, driven by policy reforms and efforts to improve oil production, suggests a cautiously optimistic investment climate. Yet, infrastructural gaps, especially in security and technology, and a projected increase in poverty to 38.8% underline the complexity of delivering advanced customer experiences. Emerging technologies are challenging existing business practices and altering firm-customer relationships (Setia, et al., 2013; Vial, 2019). Digital transformation represents the evolving changes in society and businesses using digital technologies (Majchrzak, et al., 2016; Kalu & Okeke, 2022) to enhance major business improvements, improving customer experience and creating new business models (Fitzgerald, et al., 2014; Piccinini, et al., 2015). Vial (2019) summarily described the digital transformation as “a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies”. As technology continues to advance, businesses in Nigeria are finding it increasingly difficult to keep up with the demands of their customers. Traditional customer service methods such as phone calls and email are becoming less effective, and customers are now turning to social media and messaging apps to communicate with businesses (Kalu, Nwokah & Ebitu, 2020). This is where chatbots come in, and why Nigerian businesses need to invest in chatbot development.

These economic trends highlight the need for businesses to adapt to both technological advancements and economic realities to enhance customer service. Furthermore, aligning business strategies with government policies aimed at sustainable growth is crucial for improving customer experience in the face of Nigeria’s digital transformation. To succeed, Nigerian businesses must navigate technological advancements seamlessly, ensuring they provide valuable, customer-focused services in a competitive market. Now, let’s examine how the introduction and adoption of AI have impacted the CX across different industries in Nigeria. This description recognises the prospects of digital transformation to trigger significant changes in how businesses operate by combining different forms of technologies. It is therefore not surprising to see the modus operandi of many companies to change since the advent of technology especially the introduction of digitisation which has brought about new fronts at which businesses are being operated (Setia, et al., 2013). Acknowledging the

organisations’ capabilities to leverages digital capabilities and technologies to change their business model to meet the changing consumer behaviour and needs (Li, et al., 2018). This suggests why digital transformation through technology has been considered inherently disruptive (Karimi & Walter, 2015; Vial, 2019). For continuous sustainability of success at your business, its crucial to adopt the reliable digital solutions that would enhance security, increase efficiency, streamline operations, and improve business performance such solutions include advanced manufacturing processes, Warehouse Management solution, supply chain optimization, quality control systems, customer analytics, inventory management systems, and digital marketing strategies with seamless integration with smart retail technologies and digital payment solutions,

Digital Transformation in Africa The fact that digital transformation is going on in Africa cannot be denied. Ndemo & Weiss (2017) noted that digital technologies are spreading fast across the African continent as the total sub-Saharan ICT Market is expected to grow from \$95.4bn in 2020 to reach \$104.2bn by 2023 (Walker, 2020), This potential for growth was further corroborated by G7’s communique on digital transformation in Africa which acknowledge that such transformation could be a game-changer for the African continent with the prospect of economic growth, poverty alleviation and financial inclusion (G7, 2019). It was suggested that the use emerging digital transformation which recognises the role of big data/analytics, social media, and mobility (Walker, 2020) would contribute to the African Union Agenda 2063 (G7, 2019). Ndemo & Weiss (2017) developed a framework of Africa’s emerging digital transformation, and they elaborated on the multiple environments that digital technologies have influenced and shaped. Digital transformation in Africa has covered manufacturing with automated sales processing; government using AI for citizen’s service delivery; eCommerce disruption in retails and integrated patients record in healthcare provision (Walker, 2020), however financial services transformation has taken for the front in Africa (Ndemo & Weiss, 2017). The digital transformation can trace its history to the invention of mobile banking which was introduced by some telecommunication companies such as Safaricom in Kenya, which happens to be a subsidiary of British group Vodafone, and this was carried out through a system known as MPesa system, and this swiftly overtook the conventional banking methods. Africa had been one of the continents with very poorly banked people, having an average of banking rate of 5 to 15% among African countries, except for the Maghreb region and South Africa. Telecommunication companies have utilised and leverage on their proximity to customers and availability of mobile terminals, whether with common basic phones features making it possible to use Unstructured Supplementary Service Data (USSD) protocol or the popular smartphones, to offer a wide range of mobile banking services (Wayne, et al., 2020). The increase in mobile phone subscriber numbers and access to the internet has extensively

contributed to digital transformation in Africa (Ndemo & Weiss, 2017). Mhlungu, et al. (2019) noted that customer-centricity, governance, innovation and resource attainment as factors that will shape a successful integration of digital transformation initiative. Walker (2020) however suggested that relevance of the solution, financial capabilities to afford the transformation, security and accessibility, especially with regards to the internet are key pillars for digital transformation in Africa. With regards to internet access, Specifically, in Africa emerging markets, some challenges inhibit digital transformation.

First, the recognition of technology is low, many companies and countries have yet to embrace the possibilities of technologies fully and it is not surprising to see that many countries are still struggling with policies to drive financial services through the of technology (David-West, et al., 2019),

Secondly, as many people may have to use the internet to access these technologies, poor internet connection poses a problem. The internet penetration in Nigeria stood at 42% in January 2020, and the average speed of mobile internet connections in Nigeria is 15.32 Mbps compared to the United Kingdom with 35.57 Mbps and Australia with 67.66 and with 96% of mobile connections in Nigeria being prepaid (DataReportal, 2020). Countries in emerging economies also have an average speed of 10 Mbps (Hannato, 2019).

While much progress has been made with global connectivity, there are notable gaps in terrestrial access across the continent, especially in rural and semi-rural areas (Walker, 2020). Also, the power supply in these countries possesses a challenge which may affect the adoption of digital transformation technologies. The World Energy Outlook special report recognises the persistent lack of access to electricity and the unreliability of electricity supply in emerging countries, including Africa. This lack of access is a factor inhibiting the progress and development of the continent as there are over 600 million people who do not have access to electricity in Africa (IEA, 2019). While the continent has 20% of the world's population, it accounts for less than 4% of global electricity use (Economist, 2019). Despite these challenges and limitation, Digital transformation in Africa is rapidly growing (van Dyk & Van Belle, 2019; Kalu & Bashir, 2024). Digital Disruption is expected to keep growing in Africa (Ndemo & Weiss, 2017), innovations are emerging from startups with unique business models that aimed to bridge an existing gap in the market (Bett, 2018), more established organisations are also taking responsibilities to innovate, transforming their business practises and directing their innovation efforts at bringing more people into their fold. It is, however, essential for manages to identify and overcome challenges before they occur (Abdulquadri, Mogaji, Kieu, Nguyen, 2021; Walker, 2020).

## 2 | OVERVIEW OF CHATBOTS IN DIGITAL TRANSFORMATION

A Chatbot is a representative of an individual, group of individuals or organisation (s) that is designed in human-like nature that has the potentials and ability to attend and respond immediately to organisational customers request made in different forms either oral, written or the combination of both (Hatwar et al., 2016; Abdulquadri, 2021). The chatbot was coined from the popular word "ROBOT" which means a device can stand in place of human being and do precisely what they among which is to chat (Patil & Kulkarni, 2019). They are designed to adapt to different languages its users can make use of which makes it easier to use in different parts of the world and also by a different class of people. This is made possible through designing chatbots in Natural Language Processing or Artificial Intelligence Markup Language (Khanna et al., 2015, Bashir & Kalu, 2024). The chatbot can be seen as a robotic virtual conversational agent, which can interact and exchange voice and text messages with one or more simultaneous users via a computer network. Considering the idea that the extent to which the customer finds it easy to access an appropriate person and/or facility is regarded as a critical customer experience quality (Lemke, et al., 2011), chatbot plays a crucial role, always at hand to offer help, and to assist consumers. They are described this as a never-sleeping, cost-efficient, and powerful way to provide basic support to the consumer (Alleycat, 2017) and this highlights the prospects it offers for transformation in Africa. Chatbots are faster at giving real-time responses to customers (Methew, 2016), they can personalise consumer experiences as they can understand the patterns of their interactions with customers, making consumers feel that they are being treated in a personal manner. Chatbots are also able to collect customer data from support interactions and adjust themselves accordingly (Alleycat, 2017). Consumers engage with healthcare chatbots like Your.MD and Babylon which asks users to provide information about their symptoms and the chatbot can help identify the problem, provide relevant and trusted health information and advice on the next step to take. Within retails, Consumers can engage with Echo from Amazon. In the hospitality sector, Taco Bell also created Tacobot, an artificial-intelligence-powered ordering service which allows consumers to order food and customise their meals by chatting with the chatbot. These highlights the huge role chatbot plays in building an emotional experienced with the customer as they engage with the service

providers. Likewise, for many unbanked and financially excluded people, access to this chatbot makes them closer to the Bank, coupled the advancement in machine parsing and understanding spoken or typed requests (Quoc, 2016), there are possibilities of integrating seamless opportunities to enhance consumers' experience through interaction.

Despite these prospected, chatbots are being challenged by serious exposure to web attacks which continue to pose challenges to its effective utilisation (Kaushik, Agrawal & Rahman, 2015). Also, there are growing concerns about privacy and data control and management, questioning how the big data generated through these chats are being managed (Dwivedi, 2019). The human resources needed to develop and integrate the chatbot as a digital transformation tool also present an additional challenge for its adoption and use (Shum, et al., 2018; Dwivedi, 2019)

### 2.1 | Sectorial impact of Chatbox Advancement in an emerging economy

In Nigeria, conversational chatbots have taken over various sectors. They are significantly enhancing conversational experience with their capability to provide immediate, 24/7 responses to a wide range of queries and tasks. Here's a deeper look into how they're impacting the banking, retail, and telecommunications sectors:

**Banking-** The banking sector in Nigeria is completely changing with the adoption of chatbots. Several banks have witnessed these changes very closely. AI chatbots serve multiple functions, from facilitating transactions like fund transfers and bill payments to providing account information and assisting with loan applications. For instance, a major bank in Nigeria introduced a chatbot, an intelligent virtual assistant on WhatsApp, that offers services such as bill payments, fund transfers, and account statements. These innovations not only automate mundane tasks but also significantly reduce the workload on bank staff, allowing them to focus on more complex customer needs. With the help of *Gupshup's* WhatsApp Bots, other banks in Nigeria can also automate their conversational experience, ultimately improving the conversational experience and gaining more customers.

**Retail-** With Nigeria's population projected to become the world's third-most populous by 2050, the retail sector stands at the brink of a transformative era. Retailers can leverage chatbots to manage the surging consumer demand efficiently (Kalu, Aham & Onwumere, 2019). They can provide personalized shopping experiences through product inquiries, order tracking, and customized recommendations. This technology-driven approach will be crucial in catering to a diverse and growing customer base, ensuring retail businesses not only meet but exceed the evolving expectations of Nigeria's dynamic demographic landscape.

**Addressing Industry-Specific Challenges with Chatbots -** The integration of chatbots across various sectors signifies a strategic approach to enriching customer interactions. Here's how chatbots are revolutionizing customer experience:

**Access to First-Party Customer Data in the Absence of Cookies -** In Nigeria, as businesses adapt to a digital landscape that's moving away from third-party cookies, chatbots emerge as key tools for direct customer engagement. This shift enables Nigerian companies to collect first-party data efficiently, ensuring data reliability and compliance with privacy laws. By leveraging chatbots, businesses gain insights into customer preferences directly from the source, enhancing the conversational experience and having a deeper understanding of customer behavior without compromising privacy (Kalu, et al., 2020). This approach aids in personalizing services and also builds trust.

**Better Engagement -** Personalized interactions contribute to heightened engagement levels. Chatbots can utilize this first-party data to tailor conversations and recommendations, resonating more deeply with customers. This potentially enhances brand loyalty and conversion rates, which is essential in a competitive market like Nigeria's.

**Faster Resolution -** Chatbots provide immediate answers to common queries, significantly reducing or eliminating wait times associated with traditional customer support channels like call centers. This efficiency is crucial for customer satisfaction and helps Nigerian businesses streamline their operations, making them more agile and responsive.

**24/7 Availability -** Nigeria's bustling economy never sleeps, and neither do customer inquiries. With chatbots, businesses can offer continuous support, ensuring customers have access to assistance at any time. This around-the-clock availability addresses the modern consumer's demand for immediate and convenient service, a critical factor in customer retention and satisfaction.

**Multilingual Support -** Nigeria's linguistic diversity, with over 500 languages spoken, presents a unique challenge in customer service. Chatbots, like *Gupshup's*, programmed to support multiple languages, can significantly enhance customer experience, allowing users to interact in their preferred language. This inclusivity is invaluable in the Nigerian context, making services accessible to a broader audience and fostering a more welcoming customer service environment.

### How Can Gupshup Help?

Among all these AI-driven advancements, Gupshup emerges as a powerful AI platform that provides services to meet the unique needs of businesses across these sectors. With its advanced AI capabilities, Gupshup enables businesses to easily handle complex queries, engage in natural conversations, and provide personalized customer experiences. For banks, retailers, telecommunications, and other sectors in Nigeria, Gupshup's solutions can help automate customer service tasks, enhance efficiency, and build deeper customer relationships. The platform's ease of use and the ability to integrate with various digital channels make it a valuable tool for businesses looking to leverage the power of conversational AI to improve their customer service. With a specific focus on emerging markets in Africa, digital transformation in financial services presents opportunities to a change in the business model for economic and social growth, financial inclusion for those who are unbanked and enhance the customer experience. Highlight the vast possibilities of using information and communications technologies (ICTs) to address socio-economic issues such as access to formal financial services (David-West, et al., 2019). Financial services are hugely necessary to the functioning of our economy. The financial markets connect savers and investors through the investment chain; helping the rest of the economy manage risk, and to provide the necessary payment systems and mechanisms to store value needed for trade to take place. Financial services are utilitarian service, as that money is required to support people's daily activities, and its benefits are essential to both individual and corporate consumers (Albers-Miller & Stafford, 1999), importantly in an emerging market where access to funds is crucial, financial services play an essential role.

### 3 | THEORETICAL FRAMEWORK

The theoretical underpin for this study is the Frugal innovation theory. Frugal innovation is a theory and approach that emphasizes creating innovative solutions in resource-constrained environments, often for underserved markets, by maximizing value while minimizing resource consumption. It's about delivering better results with fewer resources, focusing on simplicity and effectiveness, and often involves addressing issues in developing markets with affordable and functional solutions. Frugal innovation as a concept was initially sparked by a groundbreaking article published in *The Economist* in 2010. In it, the conception and application of a handheld electrocardiogram (ECG), the Mac 400, specifically designed to serve the rural population in India, was introduced. Every aspect of this product and its ecosystem was designed to serve the customer at less than 25% of the original cost. Since this publication, a lively discussion around this concept has developed in academia as well as in the industry (Lukas, 2022). As a term, "frugal innovation" refers to solutions (products or services), methods, or designs that focus on serving new customers in resource-constrained contexts at the bottom of the pyramid (BoP) and/or emerging and developing markets. This understanding has broadened somewhat as such innovations gain increasing attention and relevance throughout all customer segments across the globe. What remains consistent is that frugal innovation is based on a new type of value architecture that is specifically developed to serve customers' needs in the respective context by utilizing as few resources as possible. This approach leads to many cases where frugal innovations are novel and disruptive to their market environment. Research shows that for firms, especially traditional "Western" ones, these innovations require significant changes in firms' activities along the entire value chain.

### 4 | CONCLUSION AND RECOMMENDATION

The future of CX in Nigeria, guided by the advancements in AI and chatbots, introduces a promising new era of digital interaction. With the integration of AI, particularly through chatbots that are becoming increasingly human-like and intuitive, businesses have the opportunity to redefine customer engagement. The expected growth in the chatbot market will result in a substantial valuation, which displays the important role these digital assistants will play across various sectors. Chatbots can significantly contribute to business growth in Nigeria by: Enhancing customer experience through 24/7 support and instant responses, Increasing sales through personalized product recommendations and streamlined ordering processes; Improving customer engagement via proactive outreach and feedback collection; Reducing operational costs by automating routine inquiries and tasks and Providing valuable insights through data analysis and customer behavior tracking. This trend will create a more harmonious and intuitive customer experience that mirrors human interaction. The incorporation of voice technology and multichannel integration further amplifies chatbots' potential to offer seamless and convenient services to customers. For businesses in Nigeria to remain competitive and relevant in this changing landscape, adopting AI and chatbot technologies is essential (Okolo, et al. 2018). Striking the right balance between AI-driven efficiency and the irreplaceable value of human empathy will be key strategies moving forward. As we look towards the future, the integration of AI in customer experience

strategies offers a pathway to not only meet but exceed the evolving expectations of consumers.

### REFERENCES

- Abdulquadi, A., Mogaji, E., Kieu, T. & Nguyen, N. (2020). Digital transformation in financial services provision: A Nigerian perspective to the adoption of chatbot. *Journal of Enterprising Communities: People and Places in the Global Economy*, Forthcoming, <https://doi.org/10.1108/JEC-06-2020-0126>
- Bashir, M. O. & Kalu, A. O. U. (2024). Artificial Intelligence (AI) and Financial Sector Regulation: Implications for Accountants in Nigeria Economy. *Journal of Management and Science*, 14(4), 57-67.
- Fitzgerald, M., Kruschwitz, N., Bonnet, D. & Welch, M., 2014. Embracing digital technology: A new strategic imperative. *MIT sloan management review*, 55(2), pp. 1-16.
- Li, L., Su, F., Zhang, W. & Mao, J., 2018. Digital transformation by SME entrepreneurs: A capability perspective. *Information Systems Journal*, 28(6), pp. 1129-1157.
- Kalu, A. O. & Okeke, A. (2022). Search Engine Optimization and Internet Marketing (Digital Marketing: festschrift in honour of Professor Sylva, Ezuma Kalu), Owerri: Stra-Mark Communication Consult.
- Kalu, A.O.U.; Nwokah, N. G. and Ebitu, E. (2020). Entrepreneurial Marketing (C8): Festschrift in honour of Professor Aham V. Anyanwu, Department of marketing, Imo state University, Owerri, Nigeria: Career Publishers.
- Kalu, A. O. and Bashir, O. (2024). Fintech and Business Development in Microfinance Banks: Empirical Evidence from Moniepoint Microfinance Bank Nigeria Limited. *Nigerian Journal of Management Sciences*, 25(1B), 334 – 338.
- Kalu, A. O. U.; Aham, A. and Onwumere, J. C. (2019). Influence of Website Quality Dimensions on Repurchase Intention: Empirical evidence from customers of Jumia Online Stores in Port Harcourt, Rivers State. *Journal of strategic and Internet Business*, 4(1), 514-529
- Karimi, J. & Walter, Z., 2015. The role of dynamic capabilities in responding to digital disruption: A factor-based study of the newspaper industry. *Journal of Management Information Systems*, 32(1), pp. 39-81.
- Ndemo, B. & Weiss, T., 2017. Making sense of Africa's emerging digital transformation and its many futures. *Africa Journal of Management*, 3(3/4), pp. 328-347
- Setia, P., Setia, P., Venkatesh, V. & Joglekar, S., 2013. Leveraging digital technologies: How information quality leads to localised capabilities and customer service performance. *Mis Quarterly*, 37(2), pp. 565-590.
- van Dyk, R. & Van Belle, J. P., 2019. Factors influencing the intended adoption of digital transformation: a South African case study. *s.l., IEEE*, pp. 519-528.
- Walker, M., 2020. Digital transformation in Africa. [Online] Available at: <https://www.bizcommunity.com/Article/196/379/201652.html> [Accessed 22, 2 2025].
- Vial, G., 2019. Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, 28(2), pp. 118-144.
- Piccinini, E., Hanelt, A., Gregory, R. & Kolbe, L., 2015. Piccinini, E., Hanelt, A., Gregory, R., & Kolbe, L. (2015). Transforming industrial business: the impact of digital transformation on automotive organisations.. s.l., ICIS2015.
- Okolo, A. N.; Kalu, A. O. U. and Ugwueze, N. N. (2018). Electronic Customer Relationship Management and Competitive Performance of Money deposit banks in Nigeria: Theoretical Review. *Singaporean Journal of Business, Economics and Management Studies*, 6(7), 25-23.