AWARENESS AND UTILIZATION OF ARTIFICIAL INTELLIGENCE CHATBOTS BY CUCSTOMERS OF SELECT BANKS IN AKWA IBOM STATE

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Abstract

This study employed the survey research technique and the questionnaire as instrument in gathering primary data from customers of Zenith, UBA, and Stanbic IBTC banks in Akwa Ibom State in order to ascertain whether any significant relationship existed between their utilisation of the banks' AI-chatbots for self-service banking transactions and patronage of the banks. The population of this study comprised a cumulative population of 643,487 customers of the select banks while data aimed at achieving the research objectives were collected from a sample of 400 customers of the select banks as determined using the Taro Yamene formula. To reach the respondents with the research instrument, the researcher adopted the Probability Proportionate to Size (P.P.S) and availability sampling procedures. The primary data collected were analysed using simple percentage and presented in frequency tables while the correlational analyses of the variables of the study were done using Pearson Product-Moment Correlation of Co-efficient statistical method commonly symbolised as *r.* The major objective of the study was to ascertain the extent to which customers of the select banks are aware of AI-chatbots as interface for self-service banking transactions and to assess the perception of customers of select banks in Akwa Ibom State regarding the banks' utilisation of AI-chatbots for self-service banking transactions. Findings of the study indicated that customers of the select banks utilised the banks' AI-chatbots for self-service transactions (194[49%]). It was also found that customers utilisation of the banks' AI-chatbots influenced their perception of the banks (236[59%]). Other findings revealed that the select banks' customers predominantly utilised the banks' AI-chatbots for making enquiries (104[26%]). The correlational analysis of the hypothetical variables of the study showed that a significant positive correlations exist between the variables at .05 level, proving that the probability that the significance of the correlations between the variables was simply due to error or chance was less than 0.1%. Therefore, the hypothesis of the study was upheld. Among other relevant recommendations, the Branch Managers, Corporate Communications/Public Relations, and Technical/ICT units of the select banks should create the needed awareness of AI-chatbots among some sections of their clientele in order to ensure wider acceptance, adoption, and utilisation of the self-service innovations.

Introduction

The advent and proliferation of the information and communication technologies (ICTs) have redefined the communication landscape. The affordances of the ICTs have given rise to the emergence of new and emerging media technologies and innovations with consequences on human communication and social relationships. Extant literature and expositions expounding heavily on the critical thoughts of renowned technological determinists such as Thorstein Veblen, Harold Innis, Marshall McLuhan, Roger Fidler, and Neil Postman are quite specific on the dynamics of emerging media technologies. Such literature are specifically concerned with technesis on how technological affordances of emerging media are stirring communication

revolutions that are redefining and disrupting the core of humanistic communication processes across social, cultural, and organisational settings (Katz, 2017a; Katz, 2017b).

The perceived impacts and utility of these new and emerging forms of communication technologies on (human) communication are boundless. Hence, their overbearing impacts and utility permeate every form of human communication-oriented endeavours. From trade, commerce, business, advertising, public relations, marketing, human resources, media relations, financial public relations, corporate/organisational communication, to customer relationship management, one can hardly ignore the over-dependence on ICTs and their allied innovations for specialised and expert functions.

As human communication-related needs keep changing within social, cultural, and organisational contexts, emerging ICTs resources, innovations, and tools have also evolved technologically to cater to the varied end-users' needs in such regards. The affordances of ICTs and their composite applications serve diverse needs in diverse sectors of a nation's economy. They facilitate smooth running of enterprises as they guarantee timely and spontaneous access to knowledge and information, speed in transaction processes, and provision of opportunities for human beings to interact with one another in novel yet dynamic ways.

The self-service innovations heralded by ICTs blur and blend the barrier of distance in business transactions, customer relationships, business dealings as well as delivering services all round the clock without errors or mistakes that come with human fatigue, deficiencies, pressures, stress, and so on (Classhall.com, 2022). With the self-service innovations powered by ICTs, business transactions are not limited to work hours. This entails that potential and current customers of a service-oriented organisations such as banks can have unlimited and unrestricted virtual access to the organisations' offerings anytime and anywhere (Suryani, 2010).

The adoption and utilisation of ICTs and allied protocols in business sectors, most especially, in retail banking comes on the heels of the benefits they serve the banking industry. As the need and demand for boundless, limitless, and timeless customer relationship management and customer care surge, the reliance on ICTs to meet those needs and demands is paramount and sacrosanct. In view of meeting their customer relations objectives, most retail banking organisations have adopted smarter and intelligent ICTs' expert system and programme called the artificial intelligence (AI) to serve as an extension to human functions.

With rapid, spontaneous, instantaneous, consistent, precise, and accurate result-oriented and solution-packed banking services made available to customers upon their requests anytime and anywhere, AI-powered chatbots have improved banks' self-service windows by engaging customers in providing solutions. This has a way of strengthening banks' customer relationship

ends. No longer would customers have to be kept on a long queue even with the minutest of issues, complaints, queries or requests only to be attended to by an aggressive, tired, and harsh customer care agents whose shortcomings, misbehaviours, negative energies, and weaknesses as occasioned by the human nature may create impression issues that may stall patronage of the banks. It is against the background of attempting to empirically refute or validate the claim that the awareness and utilisation of AI-chatbots by customers of select banks in Akwa Ibom State.

Statement of the Research Problem

The utilisation of AI-powered chatbots by select banks in Akwa Ibom State is premeditated upon the need and desire to facilitate corporate interactive engagement, customers' self-service, and building mutually-beneficial relationships between the banks and their customers. Hence, customer relationship management is the fulcrum upon which the utilisation of AI-chatbots by banks is hinged.

As the AI-enabled chatbots are not vulnerable to human inadequacies, weaknesses, complaints, fatigue, strains, emotional outburst, and allied shortcomings characterised by human nature, they deliver on their programmed expertise with precision, accuracy, consistency, limited errors, and with speed. These justifications may be the strong points for the adoption of AI-powered chatbots such as *Zenith Intelligence Virtual Assistant* (ZIVA) by Zenith Bank; *Leo* by United Bank for Africa (UBA); *and Sami* by Stanbic IBTC Bank.

Informed by the researcher's experiential knowledge gained through personal observation of the select banks' integration of self-service innovations, it seems that the banks have integrated AI-powered chatbots as an extension of the financial services, operations, and practices often undertaken by their human service employees. The essence may be to engender self-service windows where customers can personally access the banks' services and perform personalised financial operations round the clock. Nevertheless, it is not certain whether the customers of the select banks are aware of the availability of the AI-powered chatbots integrated into their banks' financial services. It is also uncertain whether the customers of the banks do engage the self-service interfaces of their banks' AI-powered chatbots or leverage their affordances in their financial dealings and transactions with the banks.

Objectives of the Study

The objectives of this study were to:

- find out the extent to which customers of select banks in Akwa Ibom State are aware of their banks' utilisation of AI-chatbots for self-service banking transactions; and
- assess the perception of customers of select banks in Akwa Ibom State regarding the banks' utilisation of AI-chatbots for self-service banking transactions.

Research Questions

This study sought answers to the following research questions:

- To what extent are customers of select banks in Akwa Ibom State aware of their banks' utilisation of AI-chatbots for self-service banking transactions?
- What is the perception of customers of select banks in Akwa Ibom State regarding their banks' utilisation of AI-chatbots for self-service banking transactions?

Significance of the Study

The findings of this study will have huge implications for advancing the cores of bank industry practices, pedagogy/scholarship/academia, and future researches. For the banking industry, the findings of this study will serve as perception indices for banks deploying AI-chatbots to assuage the opinions, perceptions, sentiments, reactions, attitudes, and behaviours of customers regarding the banks' adoption, integration and utilisation of the innovations for banking operations. Management, board of directors, human/public/customer relations managers, and branch managers of banks will find the findings of this study instrumental as it will serve a valid reference material for informing their policy thrust regarding the uses, gratifications, benefits and systemic challenges that come with the adoption, integration, and utilisation of financial innovations such as AI-chatbots to extend and advance banking functions, processes, and operations. These stakeholders will, through the findings of this study, have firsthand experience and exposure to perceptual issues, processes, or limitations that shroud customers' appreciation, acceptance, deployment, and adoption of AI-chatbots in performing their banking processes and operations.

For future researchers, the findings of this study shall serve as empirical bases and underpinnings in researches that shall be conducted in the future on the application of AI-chatbots, customer perception and customer relationship management. It shall also serve as guide, reference, and blueprint for further researchers who shall embark on the nature of this work in the future.

Artificial Intelligence (AI)

Artificial intelligence (AI) is probably the defining technological innovation sprouted by the robust affordances of information and communication technologies of the last decade, and perhaps also the next (Boucher, 2020). The term 'Artificial Intelligence' was coined by Professor John McCarthy (an emeritus Professor at Standford University) in 1955 who saw the innovation as basically consisting the scientific and engineering processes of making intelligent machines (Manning, 2020). Emphasis in the early conception of the innovation was placed on

how to create clever machines that can learn and assimilate task-related queries, at least somewhat like human beings do (Manning, 2020).

At the wake of artificial intelligence, there have been series of critical paradigms questioning and challenging the assumed 'intelligence' of artificial intelligence especially when compared to human intelligence. Exponents of artificial intelligence are of the view that the innovation will surpass the human intelligence. This position has raised serious refutations about AI surpassing human intelligence within the framework of analysis that it is from human intelligence that artificial intelligence is built and programmed and there will be no way it will surpass the intelligence of its creators. To this end, Boucher (2020) avers that artificial intelligence is a comprehensive concept that entails broa d spectrum of smart technological innovations or programmes that are quite profound and unique for their display of intelligence which is subject to diverse interpretations.

Baum (2023) sees artificial intelligence as the study of computer systems that attempts to model and apply the intelligence of the human mind. Artificial intelligence is a way of making a computer, a computer-controlled robot, or a software think intelligently, in the similar manner the intelligent humans think (TutorialsPoints, 2015). Artificial intelligence can also be referred to as innovative or technological systems that display intelligent behaviour by analysing their environment and taking action – with some degree of autonomy – to achieve specific goals (European Commission, 2018).

As the name implies, artificial intelligence (AI) is man-made or un-natural performance-driven technological innovations developed to act in similar ways like human beings. It is an automated innovation programmed to carry out functions or perform specialised instructions that human expertise and knowledge would have been engaged to perform. AI can also be called machine intelligence, that is, the intellection or cleverness technological innovations bring into addressing real time issues and tasks.

Mohammed (2019) considers this kind of machine-intelligence as a programmed intelligence demonstrated by machines in performing specific activities such as speech recognition, learning, perception, planning, problem-solving, personal assistantships, decision-making, delivering insights, improve productivity, prediction, forecast, data analysis, data integration, trend adaptation, and logical reasoning, in contrast to the natural intelligence displayed by human beings in those regards. AI is specifically used to augment human intelligence in performing specialised queries and tasks.

Though there are diverse branches of AI which include Machine Learning (ML) (comprising deep learning, supervised learning, and unsupervised learning); Natural Language Processing (NLP) (comprising content extraction, classification, machine translation, question

answering and text generation); Expert Systems; Vision (comprising image recognition and machine vision); Speech (comprising text to speech and speech to text); Planning; and Robotics, it is AI's ability to perform tasks that are peculiar to human knowledge, experience and expertise that has earned it the name 'expert system'. Expert systems can be considered as computer programmes programmed to solve problems which are in their nature, complex and which can particularly be subjected to the domain of extra-ordinary human intelligence, expertise or ingenuity (TutorialsPoint, 2015). Expert systems are capable of advising, instructing and assisting human in decision making, demonstrating, deriving at a solution, diagnosing, explaining, interpreting input, predicting results, justifying the conclusion and suggesting alternative options to a problem (TutorialsPoint, 2015).

As an expert system, AI is a smart and intelligent machine with memories programmed with relevant humanistic knowledge in such a way that it can offer intelligent advice, explanations, suggestions, and justifications of its programmatic decisions as human beings would (Singh *et al.*, 2013). It relies on a large database of well-defined and specialised knowledge about a particular area used by human experts in contrast to knowledge gathered from textbooks and other print-based instructional or knowledge-equipping materials (Singh *et al.*, 2013). AI is adopted to enhance and improve organisations' service delivery, especially, in areas, environments or contexts that are not suitable or conducive for humans (Singh *et al.*, 2013). It is in this instance that AI is considered to serve better functions with consistency, precision, and less mistakes as well as improving organisations' productivity than humans (Singh *et al.*, 2013). Application of AI to industry practice comes with less cost compared to the cost of having to pay human experts.

Customer Relations

Customer relations refers to the practice and strategy a company employs to manage and analyse customer interactions and data throughout the customer lifecycle. The goal is to improve customer service relationships, retain customers, and drive sales growth. A strong relationship between a business and its customers helps build trust, which can enhance the growth of referrals and client retention for future transactions. In this regard, a business forges a long-term relationship that can increase the brand's reputation and long-term profits. Acquiring new and retaining existing customers requires dedicating resources and investing in creating a long-term business relationship with customers, helping them see their value in the corporation and achieving their goals through purchasing products and services (Smith, 2019).

Consequently, creating a solid long-term relationship between new and potential customers can allow a business to offer a highly personalised and enticing customer experience.

Essentially, the quality of a company's customer experience tends to determine whether or not that company will establish a long-term relationship with its past, existing, and potential customers. A recent study by Greenhalgh found that 86% of customers value their experience with the same weight as the actual products and services they purchase from a company (Greenhalgh, 2021).

The idea of customer relationship management (CRM) emerged from an information technology practitioner and vendor community in the early 1990s (Thompson, 2012). Over the last few decades, different authors and scholars have developed various approaches to defining CRM and identified its benefits to large corporations. For example, Payne and Frow (2005) claimed that CRM is the implementation of an integrated series of customer-centric technology activities. Similarly, Chen and Ching (2004) see CRM as a process that involves the use of technology for a better understanding of customer needs and to establish a good relationship. Currently, CRM is a widely used business strategy in determining and targeting the most profitable customers of a corporation (Patil, 2020).

The CRM concept involves using both advanced and new marketing strategies that help retain existing customers and acquire new ones. A successful CRM is characterised by people, technology, and business processes. Increased application of CRM activities in business helps improve close rates, increase call center efficiency, increase marketing activities, facilitate customer targeting and profiling, and increase profitability. In this technology era, the focus has changed from product-centric to customer-centric approaches, where marketers base their strategies on customers' experiences.

Theoretical Framework

Uses and Gratifications Theory (UGT)

The basic, primary, and foundational groundwork to the audience media-use and gratifications framework was laid by Jay Blumler and Denis McQuail in 1969 (Idiong *et al.,* 2023). Later conceptualisations of the framework was developed based on the central philosophical tenets that the audience are critical forces of media processes and effects which are credited to the seminal works of Elihu Katz, Jay Blumler, and Michael Gurevitch in the 1970s (Obong and Targema, 2023). The theory turns attention away from media sources and message effects to audience uses of media contents for personalised benefits (Littlejohn and Foss, 2009; Littlejohn and Foss, 2011). The UGT theoretical framework presupposes that the audience, often thought to be at the receiving end, are self-willed and socially-deterministic individuals who decide their pattern of usage of media technologies, innovations, and contents and by implication, twist the nature of influence media technologies, innovations, and contents exert on them (Obong and Targema, 2023; Akpabio *et al.,* 2023).

The Uses and Gratifications Theory is an audience-centered media analytical approach that focuses on what people do with the media technologies and innovations and not what the media do to people (Idiong *et al.,* 2023). The theory is concerned primarily with the use to which people put the media such as the AI-chatbots into, and the attendant pre-conceived needs and expectations to be satisfied in such media-use experience (Idiong *et al.,* 2023). The UGT framework is an approach to media study that focuses on the uses to which people put the media and the gratifications they seek from those uses whether on a micro or macro level (Baran and Davis, 2010; Targema *et al.,* 2023).

An epistemic analysis of the theory as maintained by Ruggiero (2000), is the position that the audience member are active consumers of diverse, multi-modal, and dynamic streams of mass mediated messages, rather than playing passive (almost inert) role in media content consumption. Scholars believe that the theory is a reflection of a seismic shift from the traditional effects models and theories of mass media consumption to a more functionalist theoretical perspective (Ruggiero, 2000; Idiong *et al.*, 2023).

Contextually, the Uses and Gratifications Theory provides both theoretical and conceptual vistas to explicate the diverse financial self-service needs and purposes to which bank customers' utilise AI-chatbot and whether or not the needs have been met and purposes, fulfilled. Its application and relevance to this study are underscored on the fact that it is a media-use theory, deeply concentrated on gratifications sought and gratifications or outcomes obtained after utilising the media for a personalised needs and purposes (Rayburn, 1996). It is from such theoretical window can knowledge be vented on whether or not the needs and purposes to which bank customers leverage AI-chatbots for financial self-service of the banks have been gratified. The framework is expected to conceptually validate or refute the claim as to whether or not the gratifications sought by using AI-chatbots could influence continuous use or discontinuation of the use of AI-chatbots for banks' financial self-service (Idiong *et al.,* 2023).

Research Methodology

The research design that was adopted for this study was the survey research method. The survey research method allowed the researcher to effectively measure the perception, behaviours, opinions, and attitudes of customers of the select banks in Akwa Ibom State in order to gain empirical knowledge and draw inference on result of the banks' awareness and utilisation of AI-chatbots for self-service banking transactions (Babbie, 2011; Ary *et al.*, 2014; Agbo and Ugwu, 2015). The population of this study comprised all the customers of the Uyo branches of Zenith Bank (Oron Road Branch); United Bank for Africa (Banking Layout Branch); and Stanbic IBTC Bank (Nwaniba Road Branch) in Akwa Ibom State. According to the data

obtained from the Manager, Human Relations/Public Relations Departments of the Uyo branches of the select banks, the customer base of the banks was provided as follows: Zenith Bank (292,349); United Bank for Africa (152,937); and Stanbic IBTC Bank (198,201). Therefore, the cumulative/total population of the study is 643,487 customers of the select banks as at June, 2023.

Selecting representative sample is often done with the hindsight that studying an entire universe beset a researcher with enormous difficulty especially in situations where the population is rather too large to be studied conveniently. In such situations, researchers are at liberty to select representative samples as the entire universe cannot be conveniently studied (Agbo and Ugwu, 2015). This underlies the researcher's rationale for determining a sample size for this study using Taro Yamene's statistical formul which a sample size of 399.7 was arrived at. It was approximated to 400. Therefore, the sample size for this study was 400 customers of the select banks in Akwa Ibom State.

The primary data for this study were collected by the researcher with an additional support from two research assistants who administered the four hundred (400) copies of the questionnaire on the respondents in the select banks in Akwa Ibom State. The data collection exercise took thirty days to be completed. To avoid mutilation and filling copies of the instruments wrongly, the researcher and the two research assistants did due diligence in explaining the nitty gritty of the instrument to the respondents. Out of the 400 copies of the questionnaire administered on the respondents, 399 copies were retrieved and found fit for the analysis of data for this study. One copy was discarded because it was found to be mutilated and riddled with multiple responses. Hence, the analysis of data was based on the number of the correctly-filled and returned copies of the questionnaire. This represented 99.7% response rate of the sample of the study. Retrieval of the copies of the questionnaire duly answered were used to analyse the data for this study using simple percentage calculation and frequency tables.

Data Presentation, Analysis And Discussion Of Findings

TABLE 1: Respondents' awareness of the utilisation of AI-chatbots by select banks in Akwa Ibom State for the purpose of facilitating customers' self-service banking transaction(s)

Item	Nature of Responses							
	SA (5)	A (4)	U (3)	D (2)	SD (1)	Total (15)	WMS	Decision
By coming across my bank's AI-chatbots								

means that I am sufficiently aware that my bank utilises AI-chatbots in facilitating customers' self-service banking transaction(s).	286 1,430	103 412	0 3	4 8	6 6	399 1,859	4.67	Accept

Since the computed value (4.67) of the weighted mean score is greater than the mean of the aggregate weighting (3.0), it implies that customers of select banks in Akwa Ibom State were aware that their banks' utilisation of AI-chatbots was to facilitate customers' self-service banking transaction(s).

TABLE 2: Respondents' awareness and usage of AI-chatbots in performing self-service banking transaction(s) with the select banks in Akwa Ibom State

Item	**Nature of Responses**							
	SA (5)	**A** (4)	**U** (3)	**D** (2)	**SD** (1)	**Total** (15)	**WMS**	**Decision**
As a result of my awareness of my bank's utilisation of AI-chatbots, I have used the innovations at some point to perform self-service banking transaction(s) with my bank.	246 1,230	143 572	0 3	4 8	6 6	399 1,819	4.56	Accept

Since the computed value (4.56) of the weighted mean score is greater than the mean of the aggregate weighting (3.0), it is inferred that the awareness that customers of select banks in Akwa Ibom State have of their banks' AI-chatbots necessitated their utilisation of the innovations in performing self-service banking transaction(s) (*see* Table A3 in Appendix II).

Table 3: The extent to which respondents are aware of the utilisation of AI-chatbots in facilitating customers' self-service banking transaction(s) by the select banks in Akwa Ibom State

Extent of Awareness	**Frequency**	**Percentage**
Very large extent	181	45
Large extent	132	33
Neutral	6	2
Little extent	32	8
Very little extent	48	12
Total	**399**	**100**

The presentation and analysis of data in Table 4.5 indicate that most of the customers (181 [45%]) of select banks in Akwa Ibom State were aware of their banks' utilisation of AI-chatbots in facilitating customers' self-service banking transaction(s) to a very large extent.

Table 4: Respondents' extent of awareness of AI-chatbots utilised by the select banks in Akwa Ibom State as a factor necessitating their adoption of the innovations in performing self-service banking transaction(s) without having to physically visit the banking halls

Item	Nature of Responses							
	SA (5)	**A** (4)	**U** (3)	**D** (2)	**SD** (1)	**Total** (15)	**WMS**	**Decision**
My extent of awareness of my bank's utilisation of AI-chatbots influence my adoption of the innovations in performing self-service banking transaction(s) without having to physically visit the banking hall.	206 1,030	133 532	40 120	14 28	6 6	399 1,716	4.30	Accept

Since the computed value (4.30) of the weighted mean score is greater than the mean of the aggregate weighting (3.0), it is inferred that the extent of awareness of customers of select banks in Akwa Ibom State of the banks' utilisation of AI-chatbots necessitated their adoption of the innovations in performing self-service banking transaction(s) without having to physically visit the banking halls.

Discussion of Findings

Research Question One: To what extent are customers of select banks in Akwa Ibom State aware of their banks' utilisation of AI-chatbots for self-service banking transactions?

Table One above was concerned with customers' awareness of the utilisation of AI-chatbots by select banks in Akwa Ibom State for the purpose of facilitating customers' self-service banking transactions. Table two was concerned with customers' awareness-induced usage of AI-chatbots in performing self-service banking transactions with the select banks in Akwa Ibom State. The computation of data in the table yielded a weighted mean score (WMS) of 4.56 which was greater than the mean of the aggregate weighting (3.0). This suggests that the awareness that customers of select banks in Akwa Ibom State have of their banks' AI-chatbots necessitated their usage of the innovations in performing self-service banking transactions.

Table Three was concerned with the extent to which respondents were aware of the utilisation of AI-chatbots in facilitating customers' self-service banking transaction(s) by the select banks in Akwa Ibom State. The presentation and analysis of data in the table indicate that most of the customers (181 [45%]) of select banks in Akwa Ibom State were aware of their banks' utilisation of AI-chatbots in facilitating self-service banking transactions to a very large extent. This finding was closely-followed by 132 (33%) customers of the banks who were aware of AI-chatbots as utilised by their banks in facilitating self-service transactions to a large extent.

Table Four was concerned with analysis of data bordering on the extent to which customers' awareness of their banks' utilisation of AI-chatbots necessitated their adoption of the innovations in performing self-service banking transactions without having to physically visit the banking halls. The analysis of data in the table yielded a weighted mean score (WMS) of 4.30 which was greater than the mean of the aggregate weighting (3.0). This inferred that the extent to which customers of the select banks in Akwa Ibom State were aware of the banks' utilisation of AI-chatbots in facilitating virtual transactions necessitated their adoption of the innovations in performing self-service banking transactions without having to physically visit the banking halls.

The summary of data-related insights and the inferences that can be drawn from the analysis of those data are that customers of the select banks in Akwa Ibom State were exposed to the AI-chatbots as used by the banks to facilitate virtual and self-service banking transactions. The findings suggest that the banks' customers were sufficiently aware of their banks' integration of AI-chatbots as self-service innovations in augmenting habitual or traditional customer relationship management often undertaken by the banks' human experts. Hence, AI-chatbots were recognised by the banks' customers as serving as extensions to human functions in financial transactions that would have required the services of human bankers or banking agents. Perhaps the awareness that the banks' customers have of their banks' utilisation of AI-chatbots in banking operations necessitated their adoption and usage of the innovations for banking transactions. From these inferences, it can be established that the level of awareness that the banks' customers have of the availability and integration of AI-chatbots for self-service transactions by the select banks in Akwa Ibom State influenced their adoption, accessibility, and usage of the innovations to perform programmatic self-service operations. Therefore, having knowledge of the availability and integration of the innovations influenced their usage among the customers.

Exponents of the Uses and Gratifications Theory (UGT) are of the view that users of media innovations are critical forces of media processes and effects (Obong and Targema, 2023). This entails that media users are self-willed and socially deterministic individuals whose decision on patterns of usage of media technological innovations are conditioned by their prior awareness, knowledge, and conviction borne out of their perceived benefits for using such technological innovations for specific purposes (Obong and Targema, 2023; Akpabio *et al.,* 2023). Perhaps, from such hindsight, the use to which banks customers put AI-chatbots into are based on their pre-conceived needs that are cushioned by their awareness of the availability of such technological innovations as well as their expected gratifications when applied within specific context of use (Idiong *et al.,* 2023).

Research Question Two: What is the perception of customers of select banks in Akwa Ibom State regarding their banks' utilisation of AI-chatbots for self-service banking transactions?

Table 4 was concerned with the analysis of responses on whether the self-service interfaces provided by AI-chatbots have been beneficial in helping customers to efficiently resolve bank-related issues with the select banks in Akwa Ibom State. The computation of data in the table yielded a weighted mean score (WMS) of 4.45 which was greater than the mean of the aggregate weighting (3.0). It was inferred that the self-service interfaces provided by AI-chatbots of select banks in Akwa Ibom State have been beneficial in helping their customers to efficiently resolve bank-related issues.

From the above, perceived efficiency of AI-chatbots sufficiently helping respondents to accomplish stress-free self-service banking transactions with the select banks in Akwa Ibom State. The analysis of data in the table yielded a weighted mean score (WMS) of 4.23 which was greater than the mean of the aggregate weighting (3.0). This suggests that AI-chatbots were found to have been sufficiently efficient in helping customers of the select banks in Akwa Ibom State to accomplish self-service banking transactions with the banks without stress.

Summary of Findings

Drawing inferences from the data-related insights analysed and presented in Chapter Four, the following findings were made that:

Customers of the select banks in Akwa Ibom State were aware of their banks' utilisation of AI-chatbots in facilitating self-service banking transactions to a very large extent (181 [45%]). This implies that customers of the select banks were sufficiently exposed to and have adequate knowledge of availability, utility, and operationalisation of the AI-chatbots as used by the banks to facilitate virtual customer relationship management through self-service innovations.

Customers of the select banks in Akwa Ibom State had very good perception of the banks' utilisation of AI-chatbots in facilitating customers' self-service banking transactions (251[62%]). This may be as a result of the customers' consideration of the banks' AI-chatbots as being very efficient and convenient to use (94[23%]). Perhaps due to their opinions of the self-service innovations as being effective in: churning out their expected outcome (87[22%]); saving their time during transactions (86[21%]); supporting their custom-made inputs (53[13%]); and having the reputation to deliver results with precision (51[13%]).

Customers of the select banks in Akwa Ibom State utilised the banks' AI-chatbots for self-service banking transactions to a very large extent (194[49%]). The extent to which the customers have utilised the banks' AI-chatbots and the experiences that were gained from such

utilisation influenced their perception of the banks' reputation in virtual customer relationship management to a large extent (236[59%]).

Customers predominantly utilised the self-service innovations of the AI-chatbots of the select banks in Akwa Ibom State for bank-related enquiries (104[26%]). Hence, it can be inferred that the predominant self-service transactions that customers of select banks utilised AI-chatbots was mainly for enquiry-based transactions with the banks.

Conclusion

The inferences drawn from the findings of this study are that the integration of AI-chatbots into banking practice or operationalisation by the select banks in Akwa Ibom State significantly influenced customer patronage of the banks. The correlational analysis of the hypothetical variables of the study clearly indicated that a correlation exists between customers' utilisation of AI-chatbots for self-service banking transactions and their patronage of the select banks in Akwa Ibom State. The correlational analysis of the variables was found to be statistically significant at the .05 level. Thus, affirming that the probability that the correlation between the variables of utilisation of AI-chatbots and customer patronage of the banks was simply due to error or chance is less than 0.1%.

In the study, it is inferred that the correlation between utilisation of AI-chatbots and patronage of the select banks by customers was foregrounded by varied but inter-related factors. The prime factor in this regard is the exposure to the idea that the banks integrate AI-chatbots as self-service interfaces to drive virtual customer relationship management. The experiences gained from such exposure made the customers aware of the availability, utility, and operationalisation of AI-chatbots and how to access them as self-service tools.

Moreso, the level of awareness that the banks' customers have of the availability and integration of AI-chatbots for self-service transactions by the select banks in Akwa Ibom State influenced their adoption, accessibility, and usage of the innovations to perform programmatic self-service operations. Therefore, knowledge gained through exposure and awareness of the availability, utility, and integration of the innovations within the banking context influenced their usage among the customers. Consequently, empirical evidences which underscore the place of exposure to and awareness of chatbots and utilisation cum patronage within the banking industry abound (*see* Gupta and Sharma, 2019; Joshi, 2021).

The second pre-conditional factor that influenced patronage of the select banks in Akwa Ibom State at the backdrop of utilisation of AI-chatbots is user experience. Hence, the experience that come with the utilisation of AI-chatbots among the bank customers serves as a pre-condition for their adoption in patronising the banks' self-services. As the customers found the innovations to be convenient and efficient when used in their self-service transactions with

the banks tell a lot about their perception of the innovations in performing creditably in the self-service banking tasks in which they were programmed to augment.

The foregoing leads to the next factor which is satisfaction. As it was found that the customers were completely satisfied with their utilisation of AI-chatbots by the select banks in Akwa Ibom for self-service banking transactions, it is implicative that the extent of their satisfaction with the banks' self-service innovations would influenced their patronage of the banks by continually using the innovations for subsequent banking transactions.

In addition to the factors earlier mentioned is the factor of perception and its perceived roles in customers' acceptance, adoption, and utilisation of AI-chatbots in patronising the banks' self-service operations. Some of the inferences drawn in the study also pointed to perception as being instrumental to customers' acceptance, adoption, and use of AI-chatbots in patronising the select banks in Akwa Ibom State. Such inferences are supported by the critical position held by exponents of the Unified Theory of Acceptance and Use of Technology (UTAUT) who had explicated that users' perception, intention, and behaviour are the core variables associated with the adoption of technological innovations for mainstream practices within an organisational setting (Viswanath *et al*., 2003; Joshi, 2021). In retrospect, the perception of customers of select banks in Akwa Ibom State regarding their utilisation of AI-chatbots for self-service banking transactions is consequential on the manner in which they rated the quality of the innovation-driven services provided by the banks in tandem with their perceived expectations and satisfaction (Rizan *et al.*, 2014).

Supportively, exponents of the Uses and Gratifications Theory (UGT) are of the view that users of media innovations are critical forces of media processes and effects (Obong and Targema, 2023). This entails that media users are self-willed and socially deterministic individuals whose decision on patterns of usage of media technological innovations are conditioned by their prior awareness, knowledge, perception, and conviction borne out of their perceived benefits for using such technological innovations for specific purposes (Obong and Targema, 2023; Akpabio *et al.,* 2023). Perhaps, from such hindsight, the use to which banks customers put AI-chatbots to is based on their pre-conceived needs which are often cushioned by their perception technology-use in line with their expected gratifications (Obong and Targema, 2023; Idiong *et al.,* 2023).

Nevertheless, as all the aforementioned factors are the culminations of the processes and effects of AI-chatbots within the banking industry in Akwa Ibom State, the submissions underscore the disruptive impacts of the emerging media technologies in augmenting humanistic functions, tasks, and transactions within banking context. This has inspired a technological discourse which supports the idea that technological innovations are at the

intersection of human existence. It is in this light that AI-chatbots, as used to drive virtual customer relationship management in virtual spaces and platforms, can be considered as extensions of human functions in the banking sector. The humanistic extensions that AI-chatbots augment human agents in the banking practice include customer service, customer relationship, digital-do-it-yourself, independent transactions, and self-help (Meuter *et al*., 2000).

The foregoing makes it apposite to say that the integration of self-service technological innovations such as AI-chatbots in the banking system in Akwa Ibom State is one of the banks' creative and deliberate strategies to retain and satisfy customers and in creating a competitive advantage amongst competing brands (Ezechirinum *et al*., 2020). So, rapid adoption and use of AI-chatbots as self-service innovations among the banks' customers are indications of the bank-customers emerging trends and patterns on the novel ways in which customers could access the various services of the banks across virtual platforms and contexts (Bobbitt and Dabholkar, 2001).

Recommendations

The first implication of the findings of this study is that the level of awareness that the banks' customers have of the availability, utility, and integration of AI-chatbots for self-service transactions by the select banks in Akwa Ibom State played a significant role in their adoption, accessibility, and usage of the innovations to perform self-service banking transactions operations. Therefore, knowledge acquired through awareness of the availability of the self-service innovations by the banks was one of the pre-conditions for their utilisation by the banks' customers.

Customers of the select banks considered the banks' AI-chatbots very efficient and convenient to use as the innovations assisted them in undertaking stress-free self-service operations compared to the banks' human experts. This implies that users of AI-chatbots considered them more professionally oriented in the discharge of customer relationship responsibilities compared to their human experts.

Customers' perception of the efficiency of the affordances of AI-chatbots of the select banks in Akwa Ibom State in solving bank-related issues was critical to dual kinds of patronage. Firstly, direct patronage of the banks' AI-chatbots' self-service interfaces and innovations. Secondly, indirect patronage of the banks' virtual services.

Customers of the select banks in Akwa Ibom State have over-utilised and over-depended on the affordances of the banks' AI-chatbots for self-service banking transactions to a very large extent. The customers seem to be addicted to the convenience, ease, and efficiency

that the digital banking innovations offer them in their daily banking transactions and affirmed not to patronise the banks should they discontinue from using the innovations.

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