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The Effect of Chatbots on Managing Brand Reputation among Commercial Banks in Kenya

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Abstract— Commercial banks in Kenya are facing increasing competition from non-bank financial institutions, such as mobile money operators and microfinance institutions. In order to maintain their market, share and reputation, banks need to find ways to improve customer service and engagement. Traditional customer support channels may be insufficient to meet the evolving expectations of tech-savvy customers in a digitally-driven era. The reliance on manual customer service processes, which can be time-consuming and prone to human error, may lead to delayed response times, inconsistent messaging, and inadequate handling of customer inquiries and complaints. This can negatively impact brand reputation, as customers value prompt and accurate support experiences. The general objective of this study was to assess the effect of chatbots on managing brand reputation among commercial banks in Kenya. Specifically, the study sought to examine the level of adoption and usage of chatbots among commercial banks in Kenya, to establish the effect of chatbot adoption on customer satisfaction among commercial banks in Kenya, to determine the effect of chatbot adoption on customer trust and confidence among commercial banks in Kenya, and to examine the effect of chatbot adoption on service quality among commercial banks in Kenya. This research was based on the diffusion of innovation theory and the technology acceptance model to explain the relationship between the study variables. A descriptive survey design was adopted. The target population included 34 out of 38 commercial banks operating in Kenya A census was conducted on all the 34 commercial banks. The unit of observation was 34 brand managers in each of the commercial banks and 384 bank customers. The bank customers were arrived at using stratified random sampling. Primary data was collected through structured questionnaires and was analyzed descriptively by use of means and standard deviation and inferentially by use of correlation and regression analyses using SPSS version 27. Data was presented in form of frequency tables. The overall level of adoption was great as indicated by a mean of 3.7 which was great among commercial banks. Linear regression results indicated, according to customer, chatbot adoption significantly accounted for 35.2% variation in customer satisfaction while for brand managers, it significantly accounted for 41.0%. According to customer, chatbot adoption significantly accounted for 28.1% variation in Customer trust and confidence while for brand managers, it significantly accounted for 39.3%. According to customer, chatbot adoption significantly accounted for 18.6% variation in service quality while for brand managers, it significantly accounted for 29.8%. The study concluded that adoption of chatbot has significant positive effect on the management of brand reputation indicators (customer satisfaction, service quality, customer trust and confidence). The study recommended that the bank should focus on optimizing chatbot integration across various touchpoints and channels to ensure a seamless customer experience. Bank management should empower customers with control over their data by providing tools and resources to manage their privacy settings, opt-in or opt-out of certain data collection practices, and monitor their account activity for any signs of suspicious behavior.

***Index Terms*— Brand Reputation, Chatbots, Commercial Banks, Customer Satisfaction, Kenya.**

1. Introduction

Managing brand reputation is crucial for commercial banks as it directly influences customer trust, loyalty, and overall business success. In an industry built on trust and credibility, a strong brand reputation distinguishes a bank from its competitors and attracts customers (Gonu & Agyapong, 2023). A positive reputation fosters customer confidence, leading to increased customer acquisition, retention, and advocacy. Moreover, a well-managed brand reputation helps banks navigate through crises and recover customer trust swiftly (Phi & Huong, 2023). It also contributes to regulatory compliance, investor confidence, and attracting top talent. Therefore, proactively managing brand reputation is essential for commercial banks to maintain a competitive edge, build long-term customer relationships, and sustain a thriving business (Alatyat et al., 2023).

Brand reputation refers to the collective perceptions, beliefs, and opinions held by stakeholders, including customers, employees, investors, and the general public, about a brand (Ab Hamid et al., 2022). It is a reflection of how the brand is perceived in terms of its credibility, trustworthiness, quality, and overall standing in the marketplace (Alatyat et al., 2023). Brand reputation manifests itself through various aspects, including customer satisfaction, customer trust and confidence, and service quality. Positive customer satisfaction reflects a favorable perception of the brand and contributes to its reputation. Satisfied customers are more likely to become loyal advocates, spreading positive word-of-mouth and recommending the brand to others, thereby enhancing its reputation (Afaq et al., 2023). Customer trust and confidence are key components of brand reputation. Trust is built when

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customers have confidence in a brand's ability to deliver on its promises, provide reliable products or services, and act in an ethical and responsible manner (Burlea-Schiopoiu & Balan, 2021). Service quality plays a significant role in brand reputation. Brands that consistently deliver high-quality products and services establish a reputation for excellence and reliability (Islam et al., 2020).

Banks play a critical role in the economy by providing financial services such as loans, deposits, and payment systems. Given the nature of their business, banks rely heavily on brand recognition and reputation more than other organizations (Damberg et al., 2022). Banks deal with customers' money and financial assets, which requires a high level of trust and confidence. Customers need to have faith in the safety and security of their funds, and a strong brand reputation helps establish that trust (Eren, 2021). Further, the banking industry is highly competitive, with numerous banks vying for customers' business. In such a crowded marketplace, a reputable brand acts as a differentiating factor and a source of competitive advantage. Customers are more likely to choose banks with established brands that are known for their reliability, credibility, and customer-centric approach (Kinyanjui, 2020). In addition, the banking industry is heavily regulated, and a strong brand reputation helps banks navigate these regulatory environments, build relationships with regulators, and maintain compliance. As a result, banks prioritize brand recognition and reputation to foster trust, attract customers, and ensure long-term success in a highly competitive and regulated industry (Kumar et al., 2022).

Nicolescu and Tudorache (2022) noted that one of the strategies being employed by organizations across the world to manage brand reputation is chatbots which are software applications that use artificial intelligence (AI) and natural language processing (NLP) technologies to interact with users through text-based or voice-based conversations. Chatbots are being used to manage brand reputation across various industries, including the banking sector. Chatbots provide a scalable and efficient way to engage with customers, address their concerns, and maintain consistent messaging, all of which contribute to brand reputation management. They can handle customer inquiries, provide real-time support, and offer personalized interactions, thereby enhancing customer satisfaction and loyalty (Haristiani, 2019). Chatbots also play a crucial role in crisis management, allowing banks to respond quickly and effectively to reputation-threatening situations. By leveraging chatbots' capabilities, banks can proactively manage their brand reputation, strengthen customer relationships, and ensure a positive brand image in the market (Cheng & Jiang, 2022).

The use of chatbots in the banking industry to manage brand reputation is justified for several reasons. To start with, chatbots offer round-the-clock availability, allowing banks to provide prompt and consistent customer support, which enhances customer satisfaction and portrays the brand as reliable and responsive (Thomas, 2020). In addition, according to Hwang and Chang (2021) chatbots can handle a high volume of inquiries simultaneously, ensuring that no customer is left unattended, which helps in maintaining a positive perception of the brand's efficiency. Further, chatbots can be programmed to deliver accurate and standardized information, ensuring consistent messaging and reducing the risk of misinformation that could harm the brand's reputation. Chatbots can also gather valuable customer data and sentiment analysis, providing insights that enable banks to identify areas for improvement and proactively address customer concerns, thus strengthening the brand's reputation as customer-centric and trustworthy (Chung et al., 2020).

A. Global Perspective of Chatbots and Managing Brand Reputation

Chatbots are being widely used in developed economies, including among commercial banks. Developed economies have embraced digital transformation and the adoption of advanced technologies, leading to increased utilization of chatbot solutions (Eren, 2021). Kumar, Mokha & Pattnaik (2022) argue that commercial banks, in particular, have recognized the benefits of chatbots in enhancing customer experience, improving operational efficiency, and managing brand reputation. Many banks have integrated chatbots into their websites, mobile apps, and messaging platforms to provide personalized customer support, streamline account inquiries, offer financial advice, and assist with transactions (Rani et al., 2023). Shaik et al. (2023) noted that these chatbots leverage AI and NLP capabilities to understand customer queries, provide accurate responses, and learn from interactions, ultimately contributing to a seamless and efficient banking experience.

China has been at the forefront of adopting advanced technologies in various industries, including banking. Chinese commercial banks have leveraged chatbot solutions to enhance customer service, improve operational efficiency, and streamline banking processes. Chatbots are integrated into banking apps, websites, and popular messaging platforms such as WeChat (Huang et al., 2020). Hwang and Kim (2021) noted that these chatbots provide services such as balance inquiries, fund transfers, bill payments, account management, and customer support. They are equipped with AI and natural language processing capabilities to understand and respond to customer queries in Mandarin Chinese. Chatbots have become a key component of digital banking strategies in China, providing customers with convenient and efficient banking services while supporting the brand reputation and competitiveness of commercial banks in the country (Yuan et al., 2023).

Chatbot adoption among commercial banks in the United Kingdom (UK) has seen significant growth in recent years. Many banks in the UK have implemented chatbot solutions to enhance customer engagement, streamline banking processes, and improve operational efficiency (Nguyen & Mogaji, 2022). Chatbots are commonly integrated into banking websites, mobile apps, and customer service platforms to provide personalized assistance, handle routine inquiries, and offer self-service options (Buhalis & Cheng, 2020). Banks in the UK leverage chatbot technologies powered by AI and NLP to

understand customer intent, provide relevant information, and even assist with complex transactions. The adoption of chatbots in the UK banking sector reflects a commitment to digital innovation and improving customer experiences while driving operational effectiveness (Wewege et al., 2020).

Chatbots have been embraced in various African countries, showcasing the growing adoption of digital technologies in the region. African businesses, including those in the banking sector, have recognized the potential of chatbots to enhance customer experiences and improve operational efficiency (Nyagadza et al., 2022). Chatbots are being utilized in African banks to offer customer support, provide account information, assist with transactions, and deliver personalized recommendations. They are often designed to understand local languages and dialects, catering to the diverse linguistic landscape of the continent (Ofori-Okyere et al., 2023). The adoption of chatbots in Africa reflects the increasing digital transformation and the desire to leverage technology to bridge gaps in financial services and create seamless customer interactions (Ofori-Acquah et al., 2023).

The use of chatbots in the Nigerian banking industry has gained significant traction in recent years. Nigerian banks have embraced chatbot technology as a means to enhance customer experiences, improve service delivery, and streamline banking processes (Abdulquadri et al., 2021). Chatbots are integrated into banking apps, websites, and messaging platforms, providing customers with convenient access to personalized support, account inquiries, fund transfers, and other common banking transactions. These chatbots are designed to understand and respond in English as well as local languages, reflecting the linguistic diversity of Nigeria. By leveraging chatbots, Nigerian banks are able to deliver efficient and accessible banking services, enhance customer engagement, and contribute to the digital transformation of the industry in the country (Soetan et al., 2021).

Egyptian banks have adopted chatbots as part of their digital transformation efforts. Chatbots are being increasingly utilized by Egyptian banks to enhance customer service, streamline processes, and improve overall customer experiences (Khams, 2022). Wahab (2023) claim these chatbots are integrated into banking websites, mobile apps, and messaging platforms, providing customers with round-the-clock support, personalized assistance, and quick access to banking information. Egyptian banks leverage chatbot technologies powered by AI and NLP to understand customer inquiries in Arabic and English, offering a seamless and user-friendly interface. The adoption of chatbots in Egyptian banks reflects a commitment to embracing digital innovation, improving customer engagement, and transforming the banking landscape in Egypt (Anis et al., 2022).

B. Local Perspective of Chatbots and Managing Brand Reputation

Chatbots have gained significant prominence among Kenyan banks as a means to enhance customer service and streamline banking operations. Many Kenyan banks have adopted chatbot solutions to offer round-the-clock support, handle customer inquiries, and provide personalized assistance (Ahmad Bhatti, 2019). Omweri (2021) noted that these chatbots are integrated into banking websites, mobile apps, and messaging platforms, allowing customers to conveniently access services, obtain account information, initiate transactions, and receive real-time support. Leveraging AI and natural language processing, chatbots understand customer queries in both English and Swahili, catering to the linguistic diversity in Kenya. By utilizing chatbots, Kenyan banks are able to deliver efficient and accessible banking experiences, improve customer satisfaction, and drive digital transformation in the banking sector (Chege, 2021).

In regards to brand reputation management, Kenyan banks understand the importance of maintaining a positive brand image to attract and retain customers in a highly competitive market. They prioritize customer satisfaction, trust, and ethical practices to build a strong brand reputation (Kiemo et al., 2019). These banks actively engage in reputation management through various channels, including social media monitoring, prompt customer service, proactive communication, and transparent business practices. By emphasizing excellent service delivery, addressing customer concerns effectively, and promoting their values, Kenyan banks strive to safeguard and enhance their brand reputation, ensuring long-term success and customer loyalty in the dynamic banking landscape (Wakazi & Ogada, 2019).

C. Statement of the Problem

Commercial banks in Kenya are facing increasing competition from non-bank financial institutions, such as mobile money operators and microfinance institutions. In order to maintain their market, share and reputation, banks need to find ways to improve customer service and engagement (Asisi et al., 2023). Traditional customer support channels may be insufficient to meet the evolving expectations of tech-savvy customers in a digitally-driven era. The reliance on manual customer service processes, which can be time-consuming and prone to human error, may lead to delayed response times, inconsistent messaging, and inadequate handling of customer inquiries and complaints (Kavila & Kilika, 2023). This can negatively impact brand reputation, as customers value prompt and accurate support experiences. According to a recent study by the Central Bank of Kenya (2020), 60 percent of Kenyans have a negative perception of commercial banks. The study also found that 40 percent of Kenyans have switched banks in the past year due to poor customer service.

Chatbots can be a valuable tool for improving customer service and engagement in the banking sector. Chatbots can be used to answer customer questions, resolve issues, and provide support 24/7. They can also be used to collect customer feedback and insights, which can be used to improve products and services. A study by Sari and Adinda (2023) found that 70 percent of customers who interacted with a chatbot were satisfied with the experience. The study also found that chatbots can reduce customer wait times by up to 80 percent. Despite the potential benefits of chatbots in enhancing brand reputation, their implementation and integration into brand reputation

management strategies among Kenyan banks remain limited. Several studies have been done on chatbots in Kenya (Kahiga, 2019; Nyongesa, Omieno and Otanga, 2020; Kasera, 2022) but they focused on other contexts and therefore their findings cannot be used to generalize the banking industry. This study therefore intends to filled the existing conceptual and knowledge gaps by focusing on commercial banks in Kenya.

D. Significance of the Study

The study would be of great significance since it would generate information that would be useful to several stakeholders including the academia, the practice (banking industry and the regulators), and policy makers. The findings of this study would provide valuable insights to bank management on the potential of chatbots in managing brand reputation. It would help them understand the impact of chatbots on customer satisfaction, brand perception, and competitive advantage. The study can guide decision-making regarding the adoption, implementation, and optimization of chatbot technologies, enabling banks to enhance their reputation management strategies and improve customer experiences.

Policy makers in the banking industry can benefit from the study's outcomes in understanding the role of chatbots in brand reputation management. The findings can inform the development of policies and regulations that encourage the adoption of chatbots while ensuring consumer protection, data privacy, and ethical usage. Policy makers can leverage the study to create a supportive environment for banks to effectively utilize chatbots for brand reputation management.

This study contributes to the existing body of knowledge by examining the specific context of Kenyan commercial banks and their utilization of chatbots for managing brand reputation. It provides a foundation for further research and exploration into the effectiveness of chatbots in reputation management within the banking sector. Academicians can use the study as a reference for future studies, contributing to the academic discourse on customer experience, technology adoption, and brand reputation management in the banking industry.

E. Research Gaps

The review of the literature on the effect of chatbots on managing brand reputation reveals several conceptual and contextual gaps that warrant further exploration. Conceptually, there is a need for a more comprehensive understanding of the mechanisms through which chatbots influence brand reputation. While existing studies have shown the potential benefits of chatbots in enhancing customer experiences and engagement, the specific processes and psychological factors involved in shaping brand reputation through chatbot interactions remain relatively unexplored. Understanding how chatbots influence customers' perceptions, attitudes, and emotions towards a brand can provide valuable insights for effective brand reputation management.

Contextually, the majority of the studies reviewed have focused on developed economies, such as the United States and European countries. There is a lack of research examining the effect of chatbots on brand reputation in emerging markets and different cultural contexts. Given the unique cultural, social, and economic factors in these regions, it is important to investigate how chatbots are perceived and their impact on brand reputation in diverse contexts. This allowed for a more comprehensive understanding of the global implications and applicability of chatbots in brand reputation management.

2. Theoretical Framework

A theory helps in explaining the theoretical fact that exists about a concept (Zikmund, Quinlan, Griffin, Babin & Carr, 2019). A theoretical review is a critical analysis of existing research and theories related to a particular topic. It involves a systematic and comprehensive evaluation of published scholarly works, such as books, academic journals, and conference proceedings, in order to identify gaps, inconsistencies, and trends in the research. The purpose of a theoretical review is to provide a foundation for further research by identifying areas where more research is needed, by highlighting areas where there is a lack of consensus, and by synthesizing information from different sources into a cohesive whole. It also helps to establish the context for the research and to demonstrate the significance of the study. This study uses the diffusion of innovation theory and the technology acceptance model theories.

A. Diffusion of Innovation Theory

The diffusion of innovation theory was proposed by Rogers (1962). The theory postulates that the adoption and spread of new ideas, technologies, or innovations within a society or social system follow a predictable pattern. The theory identifies five adopter categories - innovators, early adopters, early majority, late majority, and laggards - and suggests that the adoption process unfolds over time in an S-shaped curve. Innovators and early adopters are characterized by their willingness to take risks and embrace novelty, paving the way for the majority to gradually adopt the innovation. The theory highlights the crucial role of communication channels, social systems, and individual characteristics in influencing the diffusion process (Zoubi et al., 2023).

The theory posits several key tenets that shape the adoption and spread of innovations. Firstly, it identifies five adopter categories based on individuals' propensity to adopt new ideas: innovators, early adopters, early majority, late majority, and laggards (Kumar et al., 2022). The theory asserts that the diffusion process follows an S-shaped curve over time. Secondly, it introduces the concept of innovation attributes, including relative advantage, compatibility, complexity, trialability, and observability, which influence the rate of adoption (Cheng & Jiang, 2022). Thirdly, the theory underscores the role of communication channels and social systems in facilitating or inhibiting the diffusion process, emphasizing the importance of interpersonal networks, media, and opinion leaders in shaping adoption patterns (Islam et al., 2020).

The theory is relevant to the current study, particularly in understanding the adoption and integration of chatbots in the context of commercial banks in Kenya. As brand managers

navigate the adoption of chatbots to manage brand reputation, the theory's key tenets, such as the categorization of adopters and the factors influencing adoption, can offer valuable insights. Assessing how innovations like chatbots align with perceived advantages, compatibility with existing practices, trialability, and observability can inform strategies to enhance acceptance. Additionally, understanding the communication channels and social dynamics influencing the diffusion process can guide the study in exploring how information about chatbot implementation spreads within the banking industry and affects brand managers' decision-making.

Previous researchers have leveraged the theory in the context of branding to understand the adoption and diffusion patterns of innovative branding strategies and technologies. For instance, Nicolescu and Tudorache (2022) have explored how new branding methodologies or technologies, such as virtual branding experiences, social media branding campaigns, or augmented reality applications, diffuse within consumer markets. Afaq et al. (2023) examined the characteristics of early adopters in the branding domain, identifying how these innovators embrace and influence novel brand communication approaches. The theory has also been employed to assess the relative advantage and compatibility of innovative branding practices, shedding light on why certain strategies gain widespread acceptance while others may face resistance (David-West et al., 2021).

The diffusion of innovation theory, while insightful, has its limitations. One major constraint is its deterministic approach, assuming a linear and homogeneous diffusion process. In reality, the adoption of innovations is often more complex, influenced by diverse factors and varying across contexts (Kanga et al., 2022). The theory also tends to focus on the macro-level adoption pattern and may not adequately address the micro-level intricacies of individual decision-making. Additionally, the theory might not fully account for the dynamic and iterative nature of innovation adoption, as innovations can undergo revisions and adjustments over time (Kelikume, 2021). To overcome these weaknesses in the context of the study, a more holistic approach will be adopted, combining diffusion of innovation theory with technology acceptance model to capture both intentional and unintentional communication shifts. Further, providing clear contextual background and setting specific parameters based on prior research will guide the predictions and interpretations related to communication adjustments in the banking sector.

B. Technology Acceptance Model

The Technology Acceptance Model (TAM) was proposed by Fred Davis in 1989. The TAM postulates that users' acceptance and adoption of new technologies are influenced by two main factors: perceived usefulness and perceived ease of use. According to TAM, individuals are more likely to accept and use a technology if they perceive it to be useful in enhancing their job performance or daily activities (Davis et al., 2023). Berakon et al. (2023) discovered, if the technology is perceived as easy to use and requires minimal effort to operate, individuals are more likely to adopt it. TAM has been widely used to study users' acceptance and adoption of various technologies, including chatbots, by examining their perceived usefulness and ease of use as determinants of user behavior.

The key tenets of the Technology Acceptance Model (TAM) propose that users' acceptance and adoption of new technologies are primarily determined by two factors: perceived usefulness and perceived ease of use (Luciani et al., 2023). Perceived usefulness refers to the extent to which users believe that a technology will enhance their job performance or facilitate their daily activities. If users perceive a technology as useful, they are more likely to accept and adopt it. Perceived ease of use refers to the degree to which users believe that using the technology will be effortless and require minimal cognitive effort (Oyman et al., 2022). When users perceive a technology as easy to use, they are more likely to embrace it. These two factors play a significant role in shaping users' attitudes and intentions towards adopting new technologies and are instrumental in explaining user behavior in relation to technology acceptance (Aburbeian et al., 2022).

The model is relevant to this study as it provides a framework to understand user acceptance of new technologies, in this case, chatbots in commercial banks. TAM posits that perceived usefulness and perceived ease of use are primary determinants of technology adoption. In the context of the study, assessing how brand and communication managers perceive the usefulness of chatbots in enhancing brand reputation, coupled with their perceptions about the ease of implementing and using chatbots, will offer insights into the rate of chatbot adoption among commercial banks. By gauging these perceptions, the study can provide actionable recommendations on how banks can optimize their chatbot strategies to enhance customer satisfaction, trust, confidence, and overall service quality.

The model has been a cornerstone in numerous brand management studies, particularly those focusing on digital touchpoints and technology-driven consumer interactions. These studies often employ TAM to gauge how consumers perceive and accept brand-related technological interfaces, be it mobile apps, e-commerce platforms, or digital marketing tools (Meng & Dai, 2021). For instance, research on e-commerce platforms often utilizes TAM to comprehend how perceived usefulness and ease of use can impact a user's intention to purchase, directly influencing brand loyalty and reputation (Mostafa & Kasamani, 2022). In the realm of mobile apps associated with particular brands, TAM aids in understanding the factors driving app adoption and consistent usage. Essentially, by leveraging TAM, brand managers can discern how to design and market technological interfaces in ways that maximize user acceptance, ultimately bolstering brand equity and enhancing the consumer-brand relationship (Mtange, 2022).

The model, while influential, has faced criticism for its simplicity, often cited as overlooking external factors like social influence, cognitive biases, or specific barriers that might affect technology adoption (Oyman et al., 2022). Additionally, its core constructs, namely perceived usefulness and perceived ease of use, can be subjective and might not capture the entirety of a user's decision-making process (Luciani et al., 2023). In the

current study on chatbots in commercial banks, these weaknesses will be addressed by integrating TAM with other frameworks that consider additional variables. This holistic approach will ensure a richer, more contextual interpretation of the data, mitigating the inherent limitations of TAM.

C. Customer Satisfaction Literature

Customer satisfaction is a critical metric that assesses the extent to which customers are content with the products, services, or experiences they receive from a brand, including interactions with chatbots (Chung et al., 2020). It serves as a fundamental indicator of a brand's ability to meet and exceed customer expectations, which, in turn, can impact overall brand reputation (Phi & Huong, 2023).

Customer feedback and ratings involves actively soliciting and analyzing customer feedback and ratings that are specifically tied to their interactions with chatbots. After customers engage with chatbots, they are given the opportunity to provide feedback or assign ratings based on their experience (Eren, 2021). Positive feedback and high ratings indicate a favorable perception of chatbot-assisted services. Customers who express satisfaction through feedback and provide high ratings are essentially endorsing the value and effectiveness of chatbots in meeting their needs (Huang & Rust, 2021). This not only provides banks with insights into what aspects of chatbot interactions are working well but also serves as a form of social proof for other customers considering chatbot usage. It's a qualitative and quantitative measure of customer satisfaction that helps banks refine their chatbot strategies and enhance brand reputation (Chege, 2021).

Net promoter score (NPS) is a widely recognized and standardized metric used to gauge overall customer satisfaction and loyalty. It assesses the likelihood of customers recommending a brand's chatbot services to others, offering a quantitative measure of satisfaction (Alzoubi et al., 2021). Customers are typically asked a single question: "On a scale of 0 to 10, how likely are you to recommend our chatbot services to a friend or colleague?" Based on their responses, customers are categorized into three groups: Promoters (score 9-10), Passives (score 7-8), and detractors (score 0-6). NPS is calculated by subtracting the percentage of detractors from the percentage of promoters. A higher NPS indicates a greater likelihood of customers endorsing and advocating for chatbots, which reflects a high level of satisfaction and loyalty. Monitoring NPS provides a standardized and easily interpretable measure of chatbot effectiveness in meeting customer needs and positively impacting brand reputation (Mogaji et al., 2021).

Complaints and issue resolution focuses on the volume and nature of complaints and issues related to chatbot interactions. When customers encounter problems, inefficiencies, or dissatisfaction with chatbot services, they may register complaints (Ravichandran & Deng, 2023). Effective issue resolution within chatbot interactions is crucial for customer satisfaction. A lower volume of complaints and the ability of chatbots to resolve issues contribute to higher customer satisfaction levels (Abdulquadri et al., 2021). By tracking the number and types of complaints, banks can identify pain points and areas for improvement in chatbot performance. Efficient issue resolution by chatbots not only addresses customer concerns promptly but also demonstrates the brand's commitment to delivering a positive customer experience, which can significantly impact customer satisfaction and, consequently, brand reputation (Soetan et al., 2021).

3. Material and Methodology

Research methodology refers to the systematic and structured approach that researchers use to conduct their research studies. It involves a set of principles, practices, procedures, and techniques that guide the research process from the initial conception of the research question to the final analysis and interpretation of the results (Yin, 2017). This chapter covers the research design that guides the study. Others sections include population, sampling frame, sample and sampling technique, research instrument, data collection procedure, reliability of research instruments, validity of research instruments, pilot test, data analysis and presentation, model specification as well as model diagnostic tests.

A. Research Design

A research design is a plan or framework that outlines the methodology and procedures that will be used to conduct a research study. It is a critical component of the research process because it provides a roadmap for researchers to follow to collect and analyze data that can answer their research questions (Kothari, 2014). The current study utilized a descriptive survey design to examine the effect of chatbots on managing brand reputation among commercial banks in Kenya. The use of a descriptive survey research design was justified in the current study as it aims to assess the effect of chatbots on managing brand reputation among commercial banks in Kenya by investigating the adoption of chatbots and their impact on customer satisfaction, trust, confidence, and service quality. Descriptive surveys are well-suited for capturing the current status, characteristics, and perceptions of a population, making them an ideal choice for exploring the intricacies of chatbot implementation and its effects on brand management.

B. Study Population

In a research study, the population refers to the entire group of individuals, objects, events, or phenomena that share a common characteristic or feature of interest to the research (Cooper & Schindler, 2018). In this respect, the focus population of this research was the 38 commercial banks in Kenya (CBK, 2023). The brand managers and customers in each commercial bank served as the unit of observation.

C. Sampling Frame

A sampling frame is a listing of the accessible population from which the sample is drawn. According to Yin (2017) sampling frame is the actual set of units from which a sample has been drawn. The brand managers and customers in each of the 38 commercial banks comprised the study's sampling frame.

D. Sample and Sampling Technique

In research, a sample refers to a subset of individuals or objects that are selected from a larger population (Khan, 2018). A sample size is the portion of the focus populace that is taken as the illustrative of the total populace (Sekaran & Bougie, 2010). A selection structure is a collection of the population from which a section is chosen (Creswell & Creswell, 2017). The selection structure of the study comprised the brand managers and the customers in each of the 38 commercial banks.

For the brand managers, this study adopted a census sampling method concerning the element of assessment, which is the 38 commercial banks in Kenya. This technique was adopted as the target population is relatively small and easily accessible and it ensured the findings are fully representative of the whole population. The unit of observation was the brand managers in each of the 38 commercial banks. The respondents were reached via a google form sent to their emails to collect their responses.

For the customers, due to the absence of specific information on the total customer population, a common formula for sample size determination in survey research was utilized. The sample size was calculated using the following formula:

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where:

n is the sample size,

Z is the Z-score corresponding to the desired confidence level (95%),

p is the estimated proportion of the population that possesses the characteristic of interest (if unknown, 0.5 is commonly used to yield the maximum sample size),

q is 1-p

e is the margin of error.

The Z-score for a 95% confidence level is typically around 1.96.

This gives rise to 384 customers who were used in the current study.

In this study, a stratified random sampling method was employed, targeting customers visiting commercial bank branches in the Nairobi Central Business District. The population, representing bank customers, was divided into strata based on the individual banks. From each stratum, a random sample of customers were selected to participate in the survey. The use of stratified random sampling allowed for a proportional representation of customers from each bank, ensuring that the findings reflect the diversity of the customer base across various commercial banks in the Nairobi CBD. By distributing questionnaires to customers at the physical locations of the banks, the study aimed to capture a broad and representative sample, providing valuable insights into customer perceptions of chatbot implementation and its impact on brand reputation within the vibrant business hub of Nairobi's central district.

E. Data Collection Instrument

Data collection instruments refer to the tools or methods used to collect data in a research study. These instruments are designed to measure or gather information on the variables of interest in the study (Cresswell & Cresswell, 2017). Primary data was collected to ensure the study objectives are fully met. The primary data was obtained using a structured questionnaire. A structured questionnaire was chosen because the study adopted a quantitative approach, which is similar to numerical data. Structured questionnaires are useful in obtaining categorical data that has a numerical nature. Additionally, the data subjects are on a 5-point Likert scale and have to be precise and explicit to lower probable ambiguity to the respondents. The questionnaire comprised five-point likert-type scales ranging from one (the lowest point) to five (the highest point). The questionnaire was divided into three sections where section A covered the demographic characteristics of the respondents; section B covered chatbot implementation while section C covered managing brand reputation among commercial banks. There was a questionnaire for brand managers and one for the customers.

F. Data Collection Procedures and Ethical Considerations

Before commencing data collection, the researcher sought approval from the University and obtain a licence from NACOSTI. The researcher also provided respondents with a letter seeking their permission to voluntarily participate in the study as well as present a letter of introduction to the respective management of commercial banks seeking permission to collect data in their banks. Before the actual administration of the questionnaire to the respondents it was pretested to make sure that it is the suitable tool. The researcher employed an assistant to help in administering the questionnaire. The assistant dropped and picked the questionnaire later in cases where respondents were not reachable via Google form. The respondents helped in estimating the time needed to fill the questionnaires and identify errors to be corrected before administering to the target population. To ensure a high response rate, respondents was assured of confidentiality and anonymity.

G. Pilot Test

A pilot study is the first step of the entire research protocol and is often a smaller-sized study assisting in planning and modification of the main study (Zikmund et al., 2019). The pilot study is important in establishing the accuracy and relevance of the research instrument and is also critical in determining the feasibility of conducting the complete study. According to Cooper and Schindler (2018), extant literature suggests that a pilot study sample should be 10% of the sample projected for the larger parent study, as such, the pilot study involved 4 respondents (10% of the target population) for the brand managers and 38 respondents for the bank customers who filled the questionnaires and its accuracy tested. They were arrived at using simple random sampling. The respondents in the pilot study were not involved in the final study to ensure non-compromise of the research data. The respondents helped to

estimate the time needed to fill the questionnaires and identify errors to be corrected. The pilot study established the strength or weakness of the study. The prior testing was established to assist to determine accuracy, clarity and suitability of the study tool.

H. Reliability of Research Instruments

Reliability is a measure which is used to describe the overall consistency of an instrument (Cooper & Schindler, 2018). When a measure produces consistent results under the same conditions, it is said to have high reliability. The Cronbach alpha analysis helped to assess the reliability of the research instruments by demonstrating the internal accuracy of the data collection instrument. Cronbach's Alpha is a metric of reliability that displays a true 'base' score. Even if the questions are interchanged with similar ones, Cronbach's Alpha is important to a scholar in ensuring accuracy and reliability of the questionnaire (Khan, 2018). Reliability of 0.7 range is generally considered acceptable and over 0.8 is excellent. This threshhold was applied to the study.

I. Validity of Research Instruments

Instrument validity denotes the capacity of the instrument to measure the concept as expected (Cooper & Schindler, 2018). Construct validity is applied in measuring whether the true theoretical meaning of an idea or concept is reflected in the operational definition of variables. In this study, the researcher developed the questionnaire according to similar previous studies modifying it to suit the study objectives. Further, the questionnaire measurement items were guided by the study variable sub-constructs. This ensures that content validity is attained. Average factor loading, as well as Bartlett's test was also used to confirm content validity.

J. Data Analysis and Presentation

The process through which raw data is refined and organized in a systematic and scientific way that make it easy to interpret and understand the data refers to data analysis (Burns & Burns, 2018). As indicated by Kothari (2014) it entails operations that are closely related and that are performed so as to summarize the data and organize it in a way that it answers the research question. The researcher went through the questionnaires, count how many they are and check for completion and adequacy. The questionnaires were sorted based on adequacy. Unique codes were assigned to every question then score. The data was then entered into a computer for analysis and summarization in order to decide the intensity of emerging trends. Data was evaluated using descriptive statistical methods such as the mean, which is a measure of central tendency, and the standard deviation, which is a measure of dispersion. This aided in describing the variables of the study. Correlation and regression analysis was used to assess the strength and direction of relationship among the study variables and this answered the research questions of the study.

4. Result and Discussion

The questionnaire return rate was calculated as follows: of the 34 brand managers who were given the research questionnaires, 33 were returned representing 97.1% response rate. On the other hand, 384 questionnaires were issued to sampled customers, 311 were returned resulting to 81.0% response rate.

The objective of the study was to establish the effect of chatbot adoption on customer satisfaction among commercial banks in Kenya. This entail descriptive and inferential statistics so as to answer the question what is the effect of chatbot adoption on customer satisfaction among commercial banks in Kenya?

A. Descriptive Statistics

The sample respondents were asked to indicate their level of agreement on Customer Satisfaction as a result of chatbot adoption. The results are as shown in table 1 for bank managers and in table 2 for bank customer.

A high percentage (51.5%) of brand managers strongly agree that their bank regularly collects customer feedback to gauge satisfaction, with a mean score of 4.12 (S.D = 0.99). This suggests a strong emphasis on customer feedback as a tool for measuring and potentially improving satisfaction. The accuracy of NPS in reflecting the desired level of customer satisfaction is viewed more moderately, with the highest percentage (36.4%) agreeing and a mean score of 3.55 (S.D =

Table 1
Customer satisfaction from brand manager perspective

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Mean	S.D.
Our bank regularly collects feedback from customers to gauge their satisfaction.	51.5 (17)	12.1 (4)	33.3 (11)	3 (1)	0 ()	4.12	0.99
Our bank's Net Promoter Score (NPS) accurately reflects the level of customer satisfaction we aim for.	15.2 (5)	36.4 (12)	36.4 (12)	12.1 (4)	0 ()	3.55	0.90
The resolution of customer complaints is a top priority for our bank.	30.3 (10)	36.4 (12)	21.2 (7)	12.1 (4)	0 ()	3.85	1.00
I believe that our bank effectively addresses most of the concerns raised by customers.	36.4 (12)	36.4 (12)	21.2 (7)	6.1 (2)	0 ()	4.03	0.92
Our bank's customer satisfaction metrics are comparable or superior to industry standards.	36.4 (12)	24.2 (8)	27.3 (9)	12.1 (4)	0 ()	3.85	1.06
Customer feedback is an essential component in our bank's strategy formulation.	36.4 (12)	21.2 (7)	33.3 (11)	9.1 (3)	0 ()	3.85	1.03
Our bank frequently updates its policies based on customer satisfaction feedback.	15.2 (5)	45.5 (15)	36.4 (12)	3 (1)	0 ()	3.73	0.76
Overall, I would rate our customers' satisfaction with our bank as high.	18.2 (6)	39.4 (13)	42.4 (14)	0 ()	0 ()	3.76	0.751
Average						3.84	

Source: Researcher

Table 2
Customer satisfaction from bank customer perspective

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Mean	S.D.
I am generally satisfied with my interactions with the bank.	48.6 (151)	10.3 (32)	24.1 (75)	10.9 (34)	6.1 (19)	3.84	1.30
I would recommend this bank to a friend or colleague based on my experience.	17 (53)	34.1 (106)	27 (84)	15.8 (49)	6.1 (19)	3.40	1.13
The feedback I provide to the bank is usually taken into consideration.	33.1 (103)	31.2 (97)	12.9 (40)	15.8 (49)	7.1 (22)	3.68	1.28
The bank's Net Promoter Score (NPS) reflects my own sentiments towards their service quality.	34.4 (107)	32.8 (102)	16.7 (52)	13.2 (41)	2.9 (9)	3.83	1.13
My complaints to the bank are often resolved promptly.	37.3 (116)	19.3 (60)	21.9 (68)	16.1 (50)	5.5 (17)	3.67	1.27
I believe the bank values my opinion as a customer.	35 (109)	20.9 (65)	24.4 (76)	11.3 (35)	8.4 (26)	3.63	1.29
I feel that my issues and concerns are addressed adequately by the bank.	14.5 (45)	44.7 (139)	17.4 (54)	2.6 (8)	20.9 (65)	3.29	1.34
I am likely to continue banking here based on my current satisfaction levels.	18 (56)	37.3 (116)	22.5 (70)	1.3 (4)	20.9 (65)	3.30	1.363
Mean						**3.58**	

Source: Researcher

0.90). This indicates a mixed perception of NPS as a definitive measure of customer satisfaction.

A moderate portion (36.4%) agree, and an almost equal portion (21.1%) are neutral, regarding the resolution of customer complaints being a top priority, with a mean score of 3.85 (S.D = 1.00). This suggests a general commitment to addressing complaints but perhaps room for improvement in prioritizing this aspect. There is a slightly higher level of agreement (36.4%) with a belief in the bank's effectiveness in addressing most customer concerns, with a mean score of 4.03 (S.D = 0.92). This indicates a positive perception of the bank's responsiveness to customer issues.

The comparability of the bank's customer satisfaction metrics to industry standards is viewed positively, with the highest percentage (36.4%) strongly agreeing, and a mean score of 3.85 (S.D = 1.06). This suggests confidence in the bank's performance relative to industry benchmarks. Customer feedback is considered an essential component in the bank's strategy formulation by a moderate portion (36.4%) of brand managers, with a mean score of 3.85 (S.D = 1.03). This indicates a strategic approach to incorporating customer insights into the bank's planning.

There is a moderate level of agreement (45.5%) regarding the frequency of policy updates based on customer satisfaction feedback, with a mean score of 3.73 (S.D = 0.76). This suggests a measured approach to adjusting policies in response to customer feedback. The overall rating of customer satisfaction is viewed positively, with the highest percentage (39.4%) rating it as high, and a mean score of 3.76 (S.D = 0.751). This indicates a general satisfaction with the current state of customer satisfaction within the bank.

A moderate portion (48.6%) of customers expressed general satisfaction with their interactions with the bank, with a mean score of 3.84 (S.D = 1.30). This indicates a high level of satisfaction with the banking experience, which is crucial for customer retention and loyalty. The likelihood of recommending the bank to a friend or colleague is lower, with the highest percentage (34.1%) agreeing, and a mean score of 3.40 (S.D = 1.13). This suggests that while customers are satisfied, they may have reservations or specific experiences that affect their willingness to recommend the bank.

A moderate portion (33.1%) strongly agrees, and an almost equal portion (31.2%) agrees, that the feedback they provide to the bank is usually taken into consideration, with a mean score of 3.68 (S.D = 1.28). This indicates a positive perception of the bank's responsiveness to customer feedback. The bank's NPS is perceived as reflecting personal sentiments towards service quality by a moderate portion (34.4%) of customers, with a mean score of 3.83 (S.D = 1.13). This suggests a general agreement with the bank's NPS as an indicator of service quality.

A high percentage (37.3%) of customers believe their complaints to the bank are often resolved promptly, with a mean score of 3.67 (S.D = 1.27). This indicates a positive perception of the bank's complaint resolution process. The belief that the bank values customer opinion is shared by a moderate portion (35%) of customers, with a mean score of 3.63 (S.D = 1.29). This suggests a positive perception of the bank's customer-centric approach.

A moderate portion (44.7%) agrees that their issues and concerns are addressed adequately by the bank, with a mean score of 3.29 (S.D = 1.34). This indicates a general satisfaction with the way the bank handles customer issues. The likelihood of continuing banking with the current institution based on satisfaction levels is moderate, with the highest percentage (37.3%) agreeing, and a mean score of 3.30 (S.D = 1.363). This suggests a cautious optimism about the future relationship with the bank.

B. Pearson Correlation

Pearson correlation was conducted to establish the relationship between Chatbot adoption and Customer satisfaction. The results are presented in Table 3 and 4.

The results, as presented in Table 3, indicate a moderate to strong positive correlation between these two variables, with a correlation coefficient of 0.593. This suggests that as Chatbot adoption increases, Customer satisfaction also tends to increase, as observed from the customer's perspective. Furthermore, the statistical significance of the correlation coefficient is highlighted by a p-value of .000, indicating that the observed correlation is highly unlikely to have occurred by chance. In essence, customers perceive higher satisfaction levels in

Table 3
Pearson correlation results between chatbot adoption and customer satisfaction from customer perspective

		Chatbot adoption	Customer satisfaction
Chatbot adoption	Pearson Correlation	1	.593**
	Sig. (2-tailed)		.000
	N	311	311
Customer satisfaction	Pearson Correlation	.593**	1
	Sig. (2-tailed)	.000	
	N	311	311

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

Table 4
Pearson correlation results between chatbot adoption and customer satisfaction from brand manager perspective

		Chatbot adoption	Customer satisfaction
Chatbot adoption	Pearson Correlation	1	.640**
	Sig. (2-tailed)		.000
	N	33	33
Customer satisfaction	Pearson Correlation	.640**	1
	Sig. (2-tailed)	.000	
	N	33	33

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

Table 5
Effect of chatbot adoption on customer satisfaction from bank customers perspective

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.593[a]	.352	.350	.645115

a. Predictors: (Constant), Chatbot adoption
b. Dependent Variable: Customer satisfaction

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.866	1	69.866	167.876	.000[b]
	Residual	128.598	309	.416		
	Total	198.464	310			

a. Dependent Variable: Customer satisfaction
b. Predictors: (Constant), Chatbot adoption

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.689	.150		11.230	.000
	Chatbot adoption	.540	.042	.593	12.957	.000

a. Dependent Variable: Customer satisfaction
Source: Researcher

response to increased Chatbot adoption in banking services. These findings support the notion that Chatbot adoption plays a crucial role in enhancing Customer satisfaction within the banking sector. As banks increasingly integrate chatbots into their services, customers tend to experience higher levels of satisfaction, reflecting the effectiveness of chatbots in meeting their needs and expectations.

According to brand managers, there is a discernible association between the adoption of Chatbots and levels of Customer satisfaction within their organizations (r=0.640, P=0.000). Furthermore, the statistical significance of the correlation coefficient, indicated by a p-value of .002, underscores the reliability of the observed correlation. This suggests that the likelihood of observing such a correlation by chance is quite low. These results indicate that brand managers perceive a positive association between Chatbot adoption and Customer satisfaction. As Chatbot adoption increases, brand managers tend to observe higher levels of Customer satisfaction within their organizations. This suggests the potential effectiveness of chatbots in enhancing customer experience and satisfaction, as perceived by brand managers in the banking sector.

C. Regression Analysis on Effect of Chatbot Adoption on Customer Satisfaction

A linear regression analysis was conducted to establish effect of chatbot adoption on customer satisfaction among commercial banks in Kenya. The results are presented in Table 5 for bank customers and Table 6 for branding managers.

The model's overall fit is measured by the coefficient of determination (R square), which indicated that 35.2% of the variation in customer satisfaction can be explained by chatbot adoption. The ANOVA table shows that the regression model is statistically significant, with an F-value of 167.876 and a p-value less than .05. This means that the model as a whole is able to significantly explain the variance in customer satisfaction better than chance alone.

The unstandardized coefficient B represents the change in the dependent variable (customer satisfaction) associated with a one unit increase in the predictor variable. A one unit increase in chatbot adoption is associated with a .540 unit increase in customer satisfaction. Overall, these results suggest that

Table 6
Effect of chatbot adoption on customer satisfaction from brand managers perspective

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.640[a]	.410	.391	.491625

a. Predictors: (Constant), Chatbot adoption
b. Dependent Variable: Customer satisfaction

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.209	1	5.209	21.553	.000[b]
	Residual	7.493	31	.242		
	Total	12.702	32			

a. Dependent Variable: Customer satisfaction
b. Predictors: (Constant), Chatbot adoption

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.433	.528		2.714	.011
	Chatbot adoption	.630	.136	.640	4.642	.000

a. Dependent Variable: Customer satisfaction

Source: Researcher

adopting chatbots has a positive impact on customer satisfaction among bank customers. The model resulted model is as shown below.

$Y_1=1.689+0.540X_1$

Where Y_1 is Customer satisfaction

X_1 is Chatbot adoption

The R square value (R2=0.410) indicates that about 41.0% of the variability in customer satisfaction can be attributed to chatbot adoption. According to the ANOVA table, the regression model is statistically significant, with an F-value of 21.553 and a p-value of .000. Therefore, the set of predictors used in this study explains more variance in customer satisfaction than would be expected by random chance alone.

The coefficients table reveals that the unstandardized coefficient B for chatbot adoption is .630, meaning that for every one-unit increase in chatbot adoption, brand managers expect an associated increase of .630 units in customer satisfaction. These findings indicate that chatbot adoption may have some benefits for improving customer satisfaction according to brand managers; however, the magnitude of this effect appears smaller relative to bank customers themselves. The model is as shown below.

$Y_1=1.433+0.630X_1$

Where Y_1 is Customer satisfaction

X_1 is Chatbot adoption

D. Discussion of the Findings

This objective of the study explored the impact of chatbot adoption on customer satisfaction within commercial banks operating in Kenya. Survey participants consisting of bank branding managers and customers offered their thoughts on various facets pertaining to customer satisfaction. On average, bank branding managers deemed customer satisfaction to be excellent, rating it at 3.84 out of 5. Their agreement centered around frequent customer feedback collection, effective resolution of issues, and competitive customer satisfaction measures when contrasted to industry norms. The belief among branding managers that their banks' customer satisfaction metrics are competitive or superior to industry standards reflects a strategic focus on benchmarking and continuous improvement. This approach is supported by research indicating that benchmarking against industry standards can drive performance improvements and customer satisfaction (Campbell & Vermeulen, 2017). Sampled customers, on the contrary, submitted a milder evaluation, assigning an average mark of 3.58 out of 5. Despite this, many agreed that they felt content with their engagements with the bank and found their Net Promoter Score mirrored their attitudes towards service quality. Studies have shown that customer experience is a key determinant of customer satisfaction and loyalty in the banking sector (Aguirre et al., 2015). Furthermore, the NPS, as a measure of customer loyalty, is closely linked to customer satisfaction and has been found to be a strong predictor of business growth (Reichheld, 2003).

A Pearson Correlation analysis established a substantial relationship between chatbot adoption and customer satisfaction among both parties involved in commercial banking activities in Kenya. The correlation coefficient stood at 0.593 for customers and 0.640 brand managers, denoting a strong positive relationship. Linear regression models demonstrated that chatbot adoption had a significant bearing on customer satisfaction, explaining 35.2% and 41.0% of the variance in satisfaction levels for customers and brand managers respectively. In particular, customers showed heightened satisfaction tied to increments in chatbot adoption, equivalent to a 0.540-unit boost for each added unit. Likewise, brand managers affirmed similar connections, witnessing a 0.630-unit escalation in satisfaction correlating with every extra unit of chatbot adoption.

The findings signal promising developments in chatbot deployment within Kenya's commercial banking landscape, highlighting tangible links to amplified customer satisfaction. Continuous efforts geared towards fine-tuning chatbot functionalities and gathering valuable user inputs can solidify these achievements, ultimately elevating consumer gratification and sustaining competitivity within the industry. The results are supported by other previous studies. Tan and Lim (2023) found that customers who engaged more frequently and positively with chatbots reported higher levels of satisfaction. Effective chatbot interactions, such as providing quick and accurate responses to queries and assisting with product

recommendations, significantly influenced customer satisfaction. Wu and Ho (2022) found that chatbot usage significantly influenced customer satisfaction in the banking industry. Specifically, customers who perceived chatbots as efficient and effective in addressing their banking needs reported higher satisfaction levels.

Nuruzzaman and Hussain (2019) revealed a positive relationship between chatbot interactions and customer satisfaction across industries and geographic locations. Effective chatbot usage, characterized by personalized recommendations and efficient issue resolution, contributed to higher customer satisfaction scores. Nicolescu and Tudorache (2022) found that effective chatbot usage, characterized by prompt responses and accurate information dissemination, positively impacted citizen satisfaction with government services. Citizens who used chatbots reported higher levels of satisfaction compared to those who relied solely on traditional service channels. Shin et al. (2023) revealed a positive association between chatbot interactions and customer satisfaction in the telecom sector. Effective chatbot usage, characterized by quick issue resolution and personalized assistance, was linked to higher levels of customer satisfaction.

5. Conclusion

The research objective was to establish the effect of chatbot adoption on customer satisfaction among commercial banks in Kenya. The study revealed a significant positive effect of chatbot adoption on customer satisfaction, as perceived by both customers and brand managers. This suggests that integrating chatbots into banking services positively impacts customer satisfaction levels, potentially enhancing overall customer experiences within the banking sector in Kenya. Brand managers generally rated customer satisfaction highly, indicating proactive measures such as regular feedback collection and effective resolution of customer concerns. On the other hand, sampled customers perceived customer satisfaction more moderately but still expressed overall satisfaction with their interactions with the bank.

To enhance customer satisfaction and increase likelihood of recommendations, the study recommends that the bank should focus on improving customer engagement and communication. This includes actively seeking feedback from customers, addressing their concerns promptly, and ensuring clear and transparent communication about products, services, and policies.

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