ISSN: 2958-2326

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Publisher's Home Page: https://ijcsacademia.com/

AFRICAN JOURNAL OF COMMERCIAL STUDIES

Research Paper | Peer Reviewed | Open Access

Integrating AI to Improve Customer Experience and Marketing in Zambia's Insurance Sector: A Case Study of Selected Insurance Firms

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African Journal of Commercial Studies, 2026, 7(2),558–566
DOI Link: https://doi.org/10.59413/ajocs/v7.i2.46

Article Info

Volume 7, Issue 2

Publication history:
Accepted on 3 February 2026;
Published: 21 April 2026

Article DOI:
10.59413/ajocs/v7.i2.46

Abstract

The rapid evolution of digital technologies has significantly transformed service delivery and customer engagement in the global insurance industry. Artificial Intelligence (AI) plays a central role in this transformation by enhancing operational efficiency, personalizing customer interactions, and improving marketing strategies. However, the adoption and impact of AI in Zambia's insurance sector remain limited and underexplored. This study investigates the integration of AI to improve customer experience and marketing effectiveness in selected Zambian insurance firms using a mixed-methods approach. Quantitative data from 100 respondents revealed that 63% reported some use of AI systems, while only 31% confirmed the presence of AI chatbots. Mean scores for AI usage and marketing effectiveness were 3.21 and 3.22, with a moderate positive correlation ($r = 0.566$, $p < 0.01$). Qualitative findings from 25 interviews highlighted key themes, including limited enterprise-level adoption, operational efficiency gains, improved customer targeting, and reliance on hybrid service models. Barriers such as skills gaps, data limitations, and unclear regulations persist. The study concludes that while AI offers significant opportunities, its full potential depends on strategic implementation, capacity building, and regulatory support within Zambia's insurance sector.

Keywords: Artificial Intelligence, Insurance, Customer Experience, Marketing Strategies, Zambia

1. Introduction

The Zambian insurance sector is increasingly operating in a competitive, technology-driven environment where customers expect fast, personalized, and convenient services. To remain competitive, insurance firms are adopting digital tools such as Artificial Intelligence (AI), chatbots, and virtual assistants, which enhance customer experience and marketing effectiveness (Kasalu & Kabubi, 2025). AI technologies enable real-time support, automate routine inquiries, and provide tailored recommendations, improving operational efficiency and customer engagement (Banda, Kawimbe, & Kayombo, 2025; Tshifularo, 2022). Digital systems also facilitate data-driven decision-making, enabling firms to analyze customer behavior and design targeted marketing strategies (Kasalu & Kabubi, 2025). Despite these benefits, challenges such as infrastructure limitations, digital skills gaps, cybersecurity concerns, and low adoption rates hinder effective implementation (Mwape, 2025; Malambo, 2022). This study examines the integration of AI, chatbots, and virtual assistants in selected Zambian insurance firms, focusing on their impact on customer experience and marketing performance, offering insights for sustainable growth and enhanced competitiveness.

1.2 Statement of the Problem

Despite the growing interest in digital transformation across Africa's financial sector, the extent to which Artificial Intelligence (AI), chatbots, and virtual assistants are being adopted within Zambia's insurance industry remains largely under-explored. While digital technologies have significantly improved customer satisfaction, service efficiency, and business growth in Zambia's banking and e-commerce sectors (Chibwe, 2024; Tembo, n.d.), the insurance sector appears to lag behind in the adoption of AI-driven innovations that could enhance customer experience and marketing effectiveness.

Although InsurTech solutions have demonstrated the potential of digital platforms to promote insurance inclusivity and customer engagement across African markets, existing research provides limited insight into how these technologies are being applied within Zambia's traditional insurance firms. For instance, Nhlapo (2024) examined how an InsurTech company used mobile and digital platforms to improve insurance access in six African countries, including Zambia; however, the study focused primarily on the South African market, leaving a significant knowledge gap regarding Zambia's specific experience with AI-driven insurance solutions.

Furthermore, Zambia's insurance penetration remains low, and many firms continue to rely on conventional customer service and marketing approaches that are often slow, costly, and less responsive to modern customer expectations. This reliance on traditional methods limits insurers' ability to provide personalized services, real-time customer support, and data-driven marketing strategies that AI technologies can offer. Despite the recognized benefits of AI in enhancing customer satisfaction, operational efficiency, and competitive advantage in the global insurance industry, there is insufficient empirical evidence on how AI, chatbots, and virtual assistants are currently being integrated into Zambia's insurance sector and the extent to which they influence customer experience and marketing performance.

As a result, there is a clear need for systematic research that investigates how AI-driven technologies can be used to improve customer engagement, service delivery, and marketing strategies within Zambian insurance firms. This study addresses this gap by examining the integration of AI, chatbots, and virtual assistants in selected insurance companies in Zambia, with the aim of understanding their impact on customer satisfaction, marketing effectiveness, and overall business competitiveness in the digital age.

1.3 Research Objectives

- To assess how AI tools are used by selected insurance firms in Zambia.
- To evaluate how these digital tools are influencing marketing strategies within the Zambian insurance sector.
- To establish strategies for enhancing the effective integration of digital tools in Zambia's insurance industry.

2. Literature Review

Technological advancements have significantly reshaped the global insurance industry, challenging traditional service delivery and customer engagement models. Artificial Intelligence (AI) and automation tools, including chatbots and virtual assistants, are increasingly being adopted to enhance operational efficiency, personalize customer interactions, and optimize marketing strategies (Banda, Kawimbe, & Kayombo, 2025; Tshifularo, 2022). AI enables insurers to process large volumes of data, automate routine tasks, and engage customers through intelligent, interactive interfaces, which are critical in a competitive, customer-centric market.

In Zambia, the insurance sector has lagged behind other financial services such as banking and mobile money in adopting AI and digital tools, despite their potential to improve service delivery and expand market reach (Mulaziki & Kabubi, 2025; Chibwe, 2024). This literature review examines AI adoption trends, the influence of AI on customer experience and marketing strategies, and best practices for integration, drawing insights from global, African, and Zambian contexts to highlight research gaps.

2.1 Extent of AI Adoption in Insurance

Global Perspective

Globally, AI adoption in insurance is accelerating, with applications spanning underwriting, claims processing, risk assessment, fraud detection, and customer service (Rao & Soofastaei, 2025). Machine learning algorithms facilitate predictive insights, improving operational efficiency and decision-making. AI-enabled chatbots and virtual assistants enhance responsiveness, provide 24/7 support, and enable seamless multi-channel engagement.

AI also drives personalization, allowing insurers to tailor product recommendations, policy adjustments, and communications to individual customers, increasing satisfaction, loyalty, and retention (Peddamukkula, 2023). Automation contributes to cost reductions, with studies reporting up to 40% savings in administrative expenses (Banda et al., 2025; Rao & Soofastaei, 2025).

Challenges include AI's "black box" nature, data privacy concerns, system integration complexity, and legacy system compatibility. Successful adoption depends on organizational readiness, leadership support, and a culture open to digital experimentation (Twaambo Jr., 2024).

African Perspective

In Africa, AI adoption is growing, driven largely by InsurTech startups that leverage mobile platforms to enhance accessibility and service delivery. Nhlapo (2024) highlights that AI chatbots and digital platforms have increased insurance inclusivity by simplifying access and improving engagement.

However, structural constraints—such as limited infrastructure, unreliable internet, low digital literacy, and regulatory uncertainty—remain major barriers (Sikombe, Phiri, & Mporokoso, 2025). Many insurers still use basic ICT systems, illustrating a gap between aspirations and practical implementation. Nonetheless, AI has improved marketing and customer engagement in some African financial services (Nwachukwu & Affen, 2023), showing the continent's growing

recognition of intelligent technologies' strategic value.

Zambian Perspective

Research on AI adoption in Zambia's insurance sector is limited. Kasalu and Kabubi (2025) note that ICT integration has improved customer service, data management, and operational coordination, but firms mainly rely on basic digital tools rather than advanced AI systems. Mwape's (2025) case study at One Life Assurance Zambia shows positive employee attitudes toward digital tools, though implementation remains constrained by infrastructure and organizational capacity. Low insurance penetration, around 2.5% of GDP (PIA, 2023), reflects the slow modernization of service delivery. Traditional engagement methods, reliance on physical branches, and limited analytics hinder adoption, underscoring the need to explore AI's operational and market potential in Zambia.

2.2 Influence of AI on Customer Experience and Service Quality

Customer experience is a key differentiator in insurance, with AI impacting service quality across SERVQUAL dimensions: reliability, responsiveness, assurance, empathy, and tangibles (Parasuraman, Zeithaml, & Berry, 1988). AI improves responsiveness through chatbots and virtual agents, reducing wait times, and enhances reliability by minimizing human error (Tshifularo, 2022).

Globally, AI-driven personalization strengthens assurance and empathy by tailoring responses to individual customer histories, anticipating needs, and providing proactive guidance (Peddamukkula, 2023; Rao & Soofastaei, 2025). User-friendly mobile apps and AI platforms improve tangibles, contributing to seamless insurance experiences.

Over-reliance on AI without human oversight can negatively affect service quality when complex issues arise, highlighting the need for hybrid approaches. In Africa, AI adoption mirrors global trends but is moderated by local factors like digital literacy and infrastructure. Mobile-based InsurTech platforms have improved access, affordability, and engagement (Nhlapo, 2024), though cultural preferences for face-to-face interaction suggest hybrid models may be more effective (Sikombe et al., 2025).

In Zambia, AI's influence on customer experience is under-documented. Basic digital platforms have improved accessibility and responsiveness, but sophisticated AI applications remain scarce (Kasalu & Kabubi, 2025; Mwape, 2025). Customer hesitancy toward digital services emphasizes the importance of education, trust-building, and supportive regulations (Malambo, 2022).

2.3 Influence of AI on Marketing Strategies

AI enables insurers to analyze large datasets, segment customers, and deliver personalized campaigns. Predictive analytics identify customers likely to respond to specific offers, optimizing marketing resources (Nwachukwu & Affen, 2023). Chatbots and virtual assistants enhance engagement, provide product guidance, and generate leads.

Globally, ethical AI use and data governance are critical, as algorithmic bias or privacy issues can erode trust (Rao & Soofastaei, 2025). In Africa, mobile platforms remain key channels for AI-enhanced marketing, reaching younger, tech-savvy audiences (Nhlapo, 2024). However, infrastructure limitations, regulatory uncertainty, and varying customer access to technology necessitate hybrid marketing approaches (Alice & Ebuka, 2024).

In Zambia, AI-driven marketing remains nascent. Some firms employ digital tools and basic analytics (Kasalu & Kabubi, 2025), but sophisticated AI marketing platforms are limited. Barriers include low awareness, limited organizational readiness, and regulatory gaps (Mwape, 2025; Sikombe et al., 2025), highlighting opportunities for capacity building and strategic alignment.

2.4 Strategies for Effective AI Integration

Global Best Practices: Successful AI integration requires technological readiness, strategic vision, and organizational adaptability. Leadership support, staff training, pilot testing, and iterative implementation improve adoption outcomes (Twaambo Jr., 2024). Aligning AI initiatives with business objectives, particularly customer experience and marketing effectiveness, ensures purposeful integration into core operations.

African Approaches: African insurers leverage mobile platforms and partnerships to overcome infrastructure limitations. Collaboration among technology providers, insurers, and regulators facilitates scalable adoption. AI deployment combined with market education improves customer trust and acceptance (Nhlapo, 2024).

Zambian Context: Zambian insurers require multi-stakeholder efforts to address infrastructural, organizational, and customer barriers. Clear digital strategies, supportive regulatory frameworks, and employee capacity building are critical (Malambo, 2022; Mwape, 2025). Phased adoption, beginning with chatbots for customer service and later scaling to advanced analytics, is recommended.

Lessons Learnt

- AI Enhances Operational Efficiency: Automation reduces manual processes, streamlines claims, and optimizes risk assessment.
- AI Improves Customer Experience: Chatbots, virtual assistants, and personalized recommendations improve responsiveness, empathy, and satisfaction.
- Global Adoption Provides Competitive Advantage: Firms integrating AI benefit from cost reduction, service quality,

and higher customer retention.

- Digital Transformation Varies by Region: Infrastructure and digital literacy affect adoption levels, particularly in Africa and Zambia.
- Marketing Becomes Targeted and Personalized: AI enables tailored campaigns, improving engagement, lead generation, and conversion.
- Hybrid Models Are Effective in Africa: Combining AI with human-centered services ensures better customer acceptance and trust.

2.5 Theoretical Framework

This study is guided by the Technology Acceptance Model (TAM) and the Service Quality (SERVQUAL) model, which together provide a strong framework for understanding AI adoption and its impact on service quality in Zambia's insurance sector. TAM (Davis, 1989) explains how individuals accept and use new technologies based on perceived usefulness and ease of use, highlighting how employees and customers may adopt AI tools like chatbots, virtual assistants, and automated claims systems. SERVQUAL (Parasuraman, Zeithaml, & Berry, 1988) assesses service quality through reliability, responsiveness, assurance, empathy, and tangibles, illustrating how AI can enhance customer perceptions by improving responsiveness, reducing errors, personalizing interactions, and modernizing digital interfaces. Integrating these models enables a comprehensive analysis of both AI adoption behaviors and its effects on customer experience, service delivery, and marketing effectiveness in a developing economy context.

2.6 Conceptual Framework

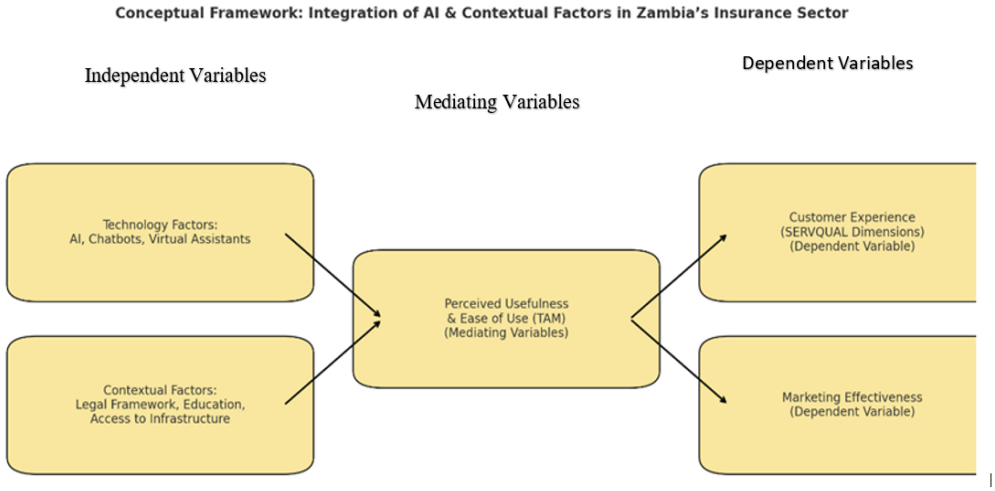

Figure 1: Conceptual Framework

3 Research Methodology

3.1 Research Design

This study used a descriptive case study design with a mixed-methods approach, combining quantitative surveys and qualitative interviews to examine AI adoption in Zambia's insurance sector, particularly in customer experience and marketing strategies. The quantitative survey targeted 385 employees and digitally active customers in Lusaka, selected using Yamane's formula, to assess perceptions of AI tools such as chatbots and virtual assistants and their impact on service quality and marketing effectiveness. The qualitative component involved 25 purposively selected key informants, including marketing managers, IT officers, customer service managers, and regulatory representatives, to provide deeper insights into strategies, challenges, and experiences related to AI integration. Lusaka was chosen as the study site due to its concentration of active insurance firms and central role in digital innovation, while the mixed-methods approach ensured both statistical generalizability and rich contextual understanding.

3.2 Validity and Reliability Test

To ensure the trustworthiness of this mixed-methods study, multiple strategies were employed across both quantitative and qualitative strands. For the quantitative component, validity was addressed by designing questionnaire items based on established constructs related to AI adoption, customer experience, and marketing effectiveness, and reviewing them with academic experts and industry practitioners to ensure clarity and relevance. Construct validity was supported through Likert-scale items reflecting dimensions such as perceived usefulness, ease of use, customer satisfaction, and service responsiveness, while reliability was assessed using Cronbach's alpha, with values above 0.70 indicating acceptable internal consistency. In the qualitative component, trustworthiness was achieved through credibility, dependability, confirmability,

and transferability: prolonged engagement and semi-structured interviews with employees, customers, and regulators enhanced credibility; a clear audit trail ensured dependability; verbatim quotations and reflective notes minimized researcher bias for confirmability; and rich contextual descriptions supported transferability. Methodological triangulation, integrating quantitative survey data with qualitative interview findings, further strengthened the study's overall validity by cross-verifying results from multiple sources and methods (Saunders, Lewis, & Thornhill, 2019; Lincoln & Guba, 1985; Creswell & Plano Clark, 2018; Hair et al., 2019).

4 Results and Discussion

4.1 Demographic Results

Gender

The chart below presents the gender distribution of respondents who participated in the study. Out of the total sample, 64 respondents (64.0%) were male, while 36 respondents (36.0%) were female. This indicates a higher participation rate among male respondents compared to female respondents. The distribution suggests that the views reflected in the study are more heavily influenced by male perspectives, which may reflect the existing gender composition within the insurance sector or in roles related to AI and digital technologies. Nevertheless, the inclusion of both male and female respondents ensures that diverse viewpoints are captured, thereby enhancing the credibility and representativeness of the findings.

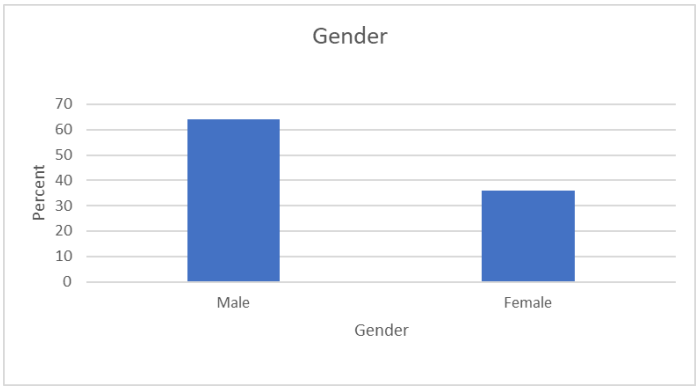

Figure 1. Gender

Firms' Use of AI Chatbots

Respondents were asked to indicate the extent to which their firm uses AI chatbots as part of its operations. The results show a mixed perception among participants: 31.0% (n=31) agreed and 11.0% (n=11) strongly agreed that their firm uses AI chatbots, suggesting that nearly half of the respondents recognize the presence of this technology. On the other hand, 14.0% (n=14) strongly disagreed and 12.0% (n=12) disagreed, indicating that a notable portion of respondents either do not experience or are unaware of chatbot implementation in their firms. The largest group, 32.0% (n=32), remained neutral, which may reflect uncertainty or limited exposure to AI tools within the workplace. Overall, these findings highlight that while AI chatbots are being adopted in some insurance firms, awareness and utilization are still varied, pointing to opportunities for wider integration and employee engagement.

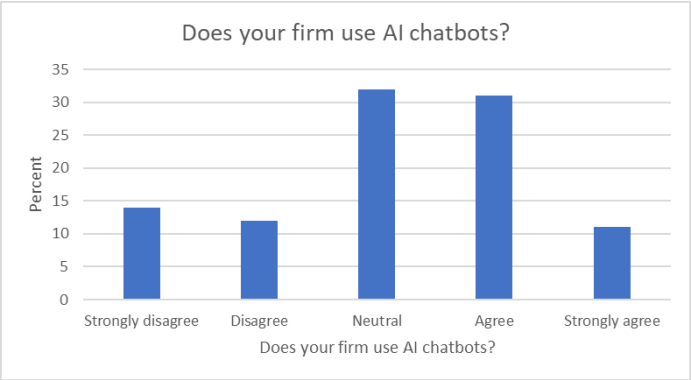

Figure 2. Firms' use of AI chatbots

4.2 Descriptive Results

Table 1: Statistics on AI Usage Index

STATISTICS

		Does your firm use AI chatbots	Does your firm use AI for marketing?	Does your firm use automated systems?	Does your firm use AI for customer service?
N	Valid	100	98	99	100
	Missing	0	2	1	0
Mean		3.13	2.58	3.59	3.55
Median		3.00	3.00	4.00	4.00
Std. Deviation		1.195	1.175	1.088	1.077

Moreover, the descriptive statistics for the AI Usage Index provide a concise summary of the overall level of AI adoption across the selected insurance firms, thereby addressing Objective One. The mean score of 3.21 indicates a moderate level of AI usage, suggesting that, on average, firms are positioned between neutrality and agreement regarding the use of AI technologies in their operations. This implies that while AI tools such as chatbots, automated systems, and AI-driven customer service are present in some firms, full-scale adoption is not yet widespread across the sector. The relatively low standard deviation (0.66) indicates limited variability in responses, meaning that perceptions of AI usage are consistent among respondents. Overall, this result confirms that AI integration in Zambia's insurance sector is underway but remains at a developing stage, with considerable potential for expansion and deeper implementation.

4.3 Qualitative Analysis

Themes Emanating from the Interviews

Table 2. Demographic Profile Implications

Theme	Code 1	Code 2	Code 3
Current AI Adoption in Insurance Firms	Minimal enterprise-level AI	Informal individual use of AI tools	Lack of integrated workflows
AI in Marketing and Customer Targeting	Limited use of AI analytics	Manual campaign strategies	Potential for customer segmentation
AI and Customer Experience	Hybrid service preference	Faster response times	Limited customer exposure to AI
Operational Efficiency through AI	Automated document processing	Potential for claims triage	Timesaving in routine tasks
Challenges to AI Integration	Poor data quality	Skills and capacity gaps	High implementation costs
Regulatory and Policy Considerations	Unclear AI regulations	Need for compliance guidance	Regulatory uncertainty slows adoption
Training and Capacity Building	Staff AI upskilling	Customer awareness programs	Knowledge gaps limit adoption
Future Opportunities and Strategic Potential	Predictive analytics for underwriting	Fraud detection enhancement	Personalized products and services

The respondents were predominantly male (64%) and aged 25–44, reflecting mid-career professionals engaged in operational, marketing, and IT roles. The sample included insurance employees (63%) and customers (37%), ensuring a comprehensive perspective on AI usage and its effects on customer engagement and marketing. This demographic mix strengthens the credibility of findings and their relevance for strategic planning in the sector.

AI Adoption in Zambian Insurance Firms

AI adoption in Zambia is still at an early stage, characterized by informal, ad hoc use of AI tools by employees rather than enterprise-level integration. Firms largely rely on traditional ICT systems, with limited AI application in underwriting, claims processing, and marketing analytics, aligning with previous studies (Kasalu & Kabubi, 2025; Mwape, 2025). Employees mainly use AI for personal productivity tasks like drafting emails or summarizing documents, reflecting cautious adoption. Quantitative findings support this, with moderate AI usage reported (AI Usage Index M = 3.21), indicating awareness but limited formal adoption. The evidence underscores the need for strategic planning, staff training, and infrastructure development to bridge the gap between awareness and enterprise-wide AI integration.

AI In Marketing and Customer Targeting

AI's application in marketing remains limited. Qualitative data showed that while some firms use chatbots and CRM analytics, these tools are operational rather than strategic, with customer segmentation and personalization still largely manual. Quantitative results reflect low-to-moderate AI usage in marketing (M = 2.58). Globally, AI enables predictive analytics and targeted campaigns that improve engagement and conversion (Nwachukwu & Affen, 2023; Peddamukkula, 2023), suggesting that Zambian insurers could significantly enhance marketing effectiveness by improving data quality, analytics capacity, and strategic deployment of AI tools.

AI and Customer Experience

AI has begun to influence customer experience, though usage remains limited to simple automation such as SMS reminders. Customers prefer hybrid models where AI handles routine queries and human agents address complex issues (P1, P18), consistent with trends in African markets (Nhlapo, 2024; Sikombe et al., 2025). Quantitative data show moderate agreement that AI improves engagement (M = 3.37) and personalization (M = 3.14). Findings suggest that AI can enhance responsiveness, reliability, and tailored interactions but requires strategic integration and digital literacy support to maximize impact.

Operational Efficiency Through AI

Participants noted that AI can improve operational efficiency in repetitive tasks like document processing, claims triage, and reporting (P12, P25). Quantitative responses show strong correlation between AI usage and operational improvements. Even limited AI adoption, such as generative AI for document summaries, boosts productivity, indicating that efficiency gains are an immediate and practical benefit while more complex applications, such as predictive risk modeling, can be phased in (Banda et al., 2025; Rao & Soofastaei, 2025).

Challenges To AI Integration

Key barriers include poor data quality, limited staff skills, and high implementation costs (P3, P20). Inadequate data structures hinder predictive analytics, and employees require training to effectively leverage AI tools. These challenges reflect broader African constraints such as digital literacy, infrastructure gaps, and cost (Alice & Ebuka, 2024; Sikombe et al., 2025). Quantitative findings show limited readiness for AI adoption, highlighting the need for strategic interventions to enable enterprise-level integration (Twaambo Jr., 2024).

4.4 Regulatory and Policy Considerations

Unclear regulatory frameworks were cited as a major impediment to AI adoption (P5, P18). Evolving policies create uncertainty regarding compliance, data privacy, and ethical AI use, reflecting the literature's emphasis on the importance of supportive regulations for digital transformation (Malambo, 2022; Sikombe et al., 2025). Quantitative data indicated moderate perception of management and government support for AI, reinforcing the need for collaboration between insurers, regulators, and technology providers to establish clear guidelines and encourage adoption (Rao & Soofastaei, 2025).

Training and Capacity Building

Both employees and customers require upskilling for successful AI adoption. Staff training enhances operational understanding, while customer awareness programs improve acceptance of digital services (P12, P22). Quantitative findings strongly support the need for structured training (M = 4.02), emphasizing that capacity building is critical for unlocking AI's potential in customer engagement, service quality, and marketing effectiveness (Twaambo Jr., 2024; Mwape, 2025).

The study shows that AI adoption in Zambia's insurance sector is nascent, largely limited to individual or departmental use, with enterprise-wide integration minimal. AI has potential to enhance customer experience through faster response times, hybrid service models, and personalized engagement, and to improve marketing through targeted campaigns and predictive insights. Operational efficiency benefits are evident in claims processing and routine task automation. Challenges include poor data quality, skills gaps, high implementation costs, and regulatory uncertainty, highlighting the need for training, awareness programs, and supportive policies. Strategic investment in technology, human capacity, and regulatory alignment can help Zambian insurers bridge the gap between current practice and global best practices, enabling the sector to fully harness AI's potential.

5 Conclusions and Recommendations

Objective 1: Assessing The Extent to Which Ai Is Used by Selected Insurance Firms in Zambia

The study concludes that AI adoption among selected Zambian insurance firms remains at an early stage, with usage largely limited to informal, individual applications rather than structured, enterprise-wide integration. While some firms have begun exploring AI for tasks such as automated communication, basic document handling, and preliminary customer service functions, core workflows, such as claims validation, predictive underwriting, and marketing analytics, are still predominantly manual. Both qualitative insights and quantitative data indicate that formal AI adoption is minimal, reflecting findings from the literature that highlight Zambia's insurance sector as lagging behind global and regional peers in advanced AI deployment (Kasalu & Kabubi, 2025; Mwape, 2025). Nonetheless, the presence of individual-level AI experimentation suggests a growing awareness of AI's potential, representing an opportunity for structured organizational adoption.

Objective 2: Evaluating how These Digital Tools are Influencing Marketing Strategies within the Zambian Insurance Sector

The findings show that AI is beginning to influence marketing strategies, but its impact is constrained by limited integration and underutilization of customer data. Where AI tools such as CRM analytics and chatbots are applied, they

support improved targeting, customer segmentation, and personalized communication; however, most marketing campaigns remain largely manual and generic, echoing patterns identified in the literature where Zambian insurers have yet to fully exploit AI for marketing optimization (Kasalu & Kabubi, 2025; Mwape, 2025). Quantitative results demonstrate moderate adoption and effectiveness of AI in marketing, while qualitative insights reveal that firms recognize the potential to enhance customer engagement and campaign precision. Overall, AI's contribution to marketing is promising but still nascent, requiring broader data-driven adoption and strategic integration to realize its full benefits.

Objective 3: Establishing Strategies for Enhancing the Effective Integration of Digital Tools in Zambia's Insurance Industry

The study concludes that successful integration of AI in Zambia's insurance sector depends on a multi-faceted approach that addresses technological, human, and regulatory dimensions. Key strategies include investment in staff training to build AI literacy, implementing hybrid service models that balance automation with human oversight, and enhancing organizational readiness through clear policies and leadership support. Additionally, firms need to prioritize high-impact, low-risk AI use cases, such as automated claims processing, customer chatbots, and internal reporting automation, before scaling to more complex applications. These conclusions align with the literature, which emphasizes that capacity building, regulatory guidance, and phased adoption are critical for sustainable AI implementation in African insurance markets (Malambo, 2022; Nhlapo, 2024). Collectively, these strategies provide a roadmap for insurers to leverage AI effectively, improve operational efficiency, enhance customer experience, and strengthen marketing performance in the Zambian context.

Recommendations

- Insurance Firms should implement regular training programs for staff to build AI literacy, covering areas such as data analytics, AI tools, and customer interaction automation. This will enable employees to effectively utilize AI systems and maximize operational efficiency.
- Insurance Firms should combine AI-driven automation with human oversight in customer service and claims processing. This approach ensures efficient service delivery while maintaining trust and personalized interaction, particularly for complex customer needs.
- Insurance Firms must improve data collection, storage, and quality standards to support reliable AI analytics. Properly structured and accurate data is essential for predictive modeling, personalized marketing, and operational decision-making.
- Regulators (e.g., PIA, Bank of Zambia) should establish comprehensive AI and digital technology policies that provide guidance on ethical usage, data privacy, and compliance. Clear regulations will encourage firms to adopt AI confidently while safeguarding customer interests.
- Insurance Firms should begin with high-impact, low-risk AI use cases, such as chatbots for customer queries, document classification for claims, and automated reporting. Gradual scaling allows firms to manage risks, demonstrate value, and gain internal buy-in before adopting more advanced applications.
- Insurance Firms, in collaboration with Industry Associations should implement programs to educate customers on AI-enabled services, highlighting benefits like faster response times, personalized offers, and improved accessibility. This will increase adoption rates and enhance customer satisfaction.

Declaration of Competing Interests

The authors declare that they are not aware of any competing financial interests or personal relationships that may have influenced the work described in this document.

Funding

This research did not receive specific grants from any public, commercial, or non-profit sector funding bodies.

Acknowledgements

The author would like to offer my heartfelt gratitude to everyone who made a contribution to this research

Ethical considerations

The article followed all ethical standards appropriate for this kind of research.

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