Business Education Journal 12 (2026)

https://doi.org/10.54156/frymj870 journal homepage: https://bej.cbe.ac.tz

The Adoption of Intelligent Chatbots in Tanzania: Insights from the Service Sector

Daniel Koloseni [a*], Herman Mandari [a]

[a] Faculty of Computing and Mathematics/Institute of Finance Management, Dar-es- Salaam, Tanzania

*Corresponding author
E-mail address: daniel.koloseni@ifm.ac.tz

Abstract

The increased use of artificial intelligence (AI) has transformed how customer service is provided and how business processes are conducted. Despite several advantages chatbots offer in the service sector, the technology has been less widely adopted in developing nations, such as Tanzania. Therefore, this study examines the adoption of chatbot technology in Tanzania's service sector. The study adopted the TOE framework integrated with DOI. Two hundred and forty-six (246) responses were collected and used in the data analysis. The current study applied the Partial Least Squares Structural Equation Modelling (PLS-SEM) to explore the hypothesised relationships. Findings show that complexity, security and privacy, relative advantage, vendor support, innovation behaviour, and management support significantly influence the adoption of chatbots in the service sector. Additionally, the study found that vendor support moderates management efforts to adopt chatbots. The study draws practical, policy, and theoretical implications for the adoption of Chatbots in Tanzania's service sector.

Keywords: *Chatbot; service sector; adoption; Vendor Support; Innovative Behaviour.*

1.0 Introduction

Artificial intelligence (AI) has recently been widely deployed in the global service sector (Gangwar et al., 2014). AI is employed to facilitate/support numerous business processes in the service sector. Customer support is a critical area of the service sector, as it provides a direct link between customers and the business and influences the business's success or failure (Kleiner, 1996). However, the quality of customer service in the service sector is inadequate to meet customers' ever-growing expectations. Customers demand twenty-four-hour, seven-day (24/7) support irrespective of geographical boundaries. Investing in a human-powered customer support centre is costly in supporting customers distributed globally. Therefore, the service sector is automating customer support using Chatbots. For instance, AI has been widely used in the financial sector to assess the ability and likelihood of loan repayment, support customers by addressing queries, generate profit-and-loss projections, and make investment decisions. Also, AI is widely used to combat fraud, provide customers with faster services, and increase the accuracy and reliability of banking activities (Rahman, 2023; Sheth, 2022). Furthermore, it is employed in the telecommunications sector to address frequently asked questions (FAQs) and troubleshoot customer queries (L. Wang et al., 2022). Specifically, chatbots are prominently used in the service sector to facilitate the provision of 24/7 customer support and detection of fraudulent activities, production recommendations in sales, marketing and e-commerce, medical reminders, appointment scheduling in the healthcare sector, employee recruitment in human resources, booking and reservations in hospitality and travel sectors, to mention a few.

Despite its advantages, the adoption of AI, in general, and chatbots, in particular, in Tanzania's service sector has been rather slow (Sukums et al., 2023), with only a few institutions using it. Also, previous studies have shown that AI research remains limited, and further research is needed to determine how AI can best improve living and working conditions (Hradecky et al., 2022a). AI, as an emerging technology, should be carefully regulated to ensure it is used in ways customers can trust. The technology can be misused without regulations, jeopardising security, privacy, and safety (Necz, 2024; Scherer, 2015). Further, regulations help thwart bias and unfair treatment of users (i.e., customers),

Cite paper: Koloseni, D., & Mandari, H. (2026). The Adoption of Intelligent Chatbots in Tanzania: Insights from the Ser-vice Sector, *vol*(12), Issue 1: 16 pages.

ensuring that AI-powered innovations such as chatbots serve everyone. As with other technologies, vendor support is imperative to ensure a smooth adoption of AI in business operations.

Support is, therefore, essential for any new technology, and chatbots are no exception, as it reduces employee resistance to change, enables the firm to navigate technical challenges, and reduces the time to successfully deploy the technology (Thong et al., 1996). Further, continuous support enhances usability, eases the transition (Kalankesh et al., 2020; Thong et al., 1996), and overall technology adoption. Hence, vendor support may moderate the impact of other factors on AI adoption. In this regard, it is essential to examine its moderating effect on the adoption of chatbots in service provision.

The current study adopts the Technology-Organisation-Environment (TOE) framework and the Diffusion of Innovations Theory (DOI) to examine the drivers of Chatbot adoption in Tanzania. Moreover, the current study fills a gap in the literature on Tanzania and developing economies by identifying the factors influencing chatbot adoption in Tanzania's service sector. Also, the study provides a specific model that Tanzania and other emerging economies can use to adopt Chatbots

2.0 Literature review

2.1 Chatbot Application in Business

The rise of the Fourth Industrial Revolution (4IR) has led to the integration of various innovations into business processes and has simplified the way services are provided to customers (Ayanwale & Ndlovu, 2024). Different innovations, including AI, the Internet of Things, Big Data, robotics, Quantum Computing, and Virtual Reality, have been recognised as major driving factors behind the success of 4IR (Ayanwale & Ndlovu, 2024). Among the most popular technologies in the services industry is Chatbot, an AI technology (Polyportis & Pahos, 2024). A chatbot is a computer-based program based on Natural Language Processing (NLP) that can conduct conversations and respond to various queries based on the configured business rules (Balakrishnan & Dwivedi, 2021; Luo et al., 2022). Chatbots provide conversation in two modalities: text-based interactions and spoken interactions (Nguyen, Chiu & Le, 2021). The need to use chatbots in the service sector has recently increased due to the various advantages this technology offers. Studies have shown that human-oriented services have limitations, particularly in situations where services have to be provided 24/7, which affects the productivity of an individual as well as the company's productivity (Lidén & Nilros, 2020; Pillai & Sivathanu, 2020a; Zhou, 2023). Thus, the Chatbot application is more effective in providing sophisticated conversations, quality and affordable services (Misischia et al., 2022a).

Furthermore, Misischia, Poecze and Strauss (2022) argued that using Chatbots in the service sector is very important because they can enhance customer satisfaction and increase purchase intention and loyalty. Despite the advantages offered by Chatbots, studies have shown that customers are satisfied when interacting with them while receiving services (Nguyen, Chiu, & Le, 2021). As a result, most service providers hesitate to adopt chatbots for customer service.

2.2 Technology Adoption Theories

Various adoption theories have been employed to explain how individuals and organisations adopt technological innovations, services, and products. Among the available theories, some explain the adoption of the organisational context, while others explain the individual context (Cai et al., 2019; Mikalef et al., 2022a). Since this study examines AI adoption in an organisational context, only theories developed to explore adoption behaviour in such contexts will be considered. Various previous studies which have examined the adoption of AI in the service sector have applied TAM, UTAUT, TPB and DOI (Andrews et al., 2021; Das & Datta, 2024; Lim & Zhang, 2022; Venkatesh, 2022). All these theories explain technology implementation from an individual's side (Hradecky et al., 2022b; Mikalef et al., 2022b).

Furthermore, these theories have been criticised as technology-centric; from this perspective, technology, rather than individuals, predicts the intention to adopt it (Awa et al., 2015; Pillai & Sivathanu, 2020). Other important aspects of technology adoption, such as organisational and environmental factors, are often ignored. However, the DOI addresses managerial and technological

factors but cannot address environmental ones (Gangwar et al., 2014). Therefore, applying them to examine the organisational perspective will not yield valuable findings for addressing the use of Chatbots in Tanzania. Consequently, the current study employed the Technology-Organisational-Environmental (TOE) framework to explore the adoption of Chatbots in service provision in the Tanzanian context. The TOE framework has been empirically validated in the investigation of IS adoption at the organisational level because it provides a comprehensive picture of IS adoption, the processes underpinning it, organisational size and constraints, and adoption challenges (Awa et al., 2016; Pillai & Sivathanu, 2020). Therefore, applying the model in the current study will provide more valuable findings.

2.3 Research Model and Hypotheses Development

The study employs the TOE developed by (Tornatzky, Fleischer, & Chakrabarti, 1990) and the Diffusion of Innovation (DOI) Theory coined by (Rogers, 1995) to form a research framework for the study. The TOE framework examines technological, organisational, and environmental elements that are critical for the firm to adopt the technology (Tornatzky et al., 1990). TOE has been widely employed to understand technology adoption at the firm level because of its flexibility in accommodating contextual variables specific to the technology under examination (Mikalef et al., 2022). The study's theoretical framework, as shown in Figure 1, is further extended by exploring the moderating effects of vendor support on the linkage among compatibility, management support, and AI adoption (i.e., chatbots) in the Tanzania service sector.

Relative advantage is essential in technology use because it explains the benefits users expect from technology. Relative advantage refers to the extent to which the newly implemented technology is perceived to supersede the current usage technology (Ayanwale & Ndlovu, 2024). In the context of using chatbots in the service sector, chatbots are expected to provide more advantages, such as consistency in providing customer services, an easy way of responding to customer queries, serving multiple customers at once, and serving customers all the time (Rodríguez Cardona et al., 2019). Past studies have examined the impact of relative advantages on technology adoption and found a positive and significant effect (Ayanwale & Ndlovu, 2024; Mikalef et al., 2022; Polyportis & Paphos, 2024). As with the use of Chatbots in the service sector, once organisations recognise the underlying advantages of deploying Chatbots for customer service, the likelihood of adoption is expected to rise. Based on the previous explanations, this study hypothesises:

H1: Relative Advantage positively influences the adoption of Chatbots in service provision.

Compatibility is the degree to which a person or a firm expects the technology to align with extant values, prior experiences, and customers' desires. When technological users perceive the technology to align with how they conduct their activities, their likelihood to adopt and use it in business increases (Alt et al., 2021a). Rogers, Singhal and Quinlan (2014) concluded that customers will likely adopt compatible technology quickly. Given the diversity of AI technologies, any AI technology perceived to seamlessly align with how an organisation provides customer service will be widely adopted. In the current context, a Chatbot's compatibility means providing customer services consistent with how services are provided. Not only that, but the Chatbot should also leverage existing techniques to serve customers seeking services. Various prior studies have concluded that compatibility positively and significantly influences technology adoption (Alt et al., 2021b; Sowa et al., 2021). In other words, once service providers realise that using chatbots will align with how services have been provided to customers, the likelihood of acceptance and adoption will be very high. Based on the above explanation, this study predicts thusly:

H2: Compatibility positively influences the adoption of Chatbots for service delivery.

Complexity is the extent to which an individual perceives technology as challenging in accomplishing their duties (Aziz & Wahid, 2020). Studies have shown that when the use of a specific technology is

complex, adoption tends to be very low (Aziz & Wahid, 2020). As with AI technologies, the complexity of installation, configuration, and management procedures makes it difficult to use chatbots. Not only that, but when there is difficulty using the Chatbot on the customer's side, use becomes practically impossible. Previous studies have concluded that organisational complexity reduces the likelihood that organisations will adopt and use AI technologies, including chatbots (Rodríguez Cardona et al., 2019). Likewise, when the service sector perceives that using chatbots would intensify the complexity of service provision to customers, the likelihood of using chatbots decreases. Thus, the study proposes:

H3: Complexity negatively influences the adoption of Chatbots in service provision.

Security and privacy are among the notable hurdles to adopting any technology. Research shows that when there are security and privacy concerns, the likelihood of continuing to use the technology or information systems decreases (Pillai & Sivathanu, 2020). In the context of chatbots, security and privacy are very important because the company data is shared between systems for processing during service provision. If security and privacy concerns have not been adequately addressed, the likelihood of data misuse by an unauthorised person increases. Similarly, when organisations perceive that using chatbots will jeopardise the security and privacy of their data, the likelihood of adopting chatbots will decrease. Based on the preceding explanations, we hypothesise:

H4: Security and privacy negatively influence the adoption of Chatbots in service provision.

Management support is the extent to which the organisation's management understands and supports the need to use technology to achieve the organisation's objectives (Al Haderi et al., 2018). This means the management needs to make pivotal decisions, create an acceptable environment for technology usage, and develop strategies and policies that support technology adoption (Frau, 2022; Hradecky et al., 2022b). Not only that, but management support is also required to ensure all the essential resources are available to implement the needed solutions (Frau, 2022; Lin et al., 2012). Studies have shown that adequate support from the top management induces high technology usage (Frau, 2022; Lin et al., 2012). In the context of AI technologies like Chatbots, management support is essential to ensure that the necessary infrastructure and costs for implementing the required solutions are in place, enabling better investment in Chatbot use. Previous studies have acknowledged the impact of top management support on the acceptance of technological innovations (Abaddi, 2024; J. Wang et al., 2022). Likewise, with the adoption of Chatbot, if management provides adequate investment support and develops strategies and policies for investing in Chatbot technologies, the likelihood of adopting Chatbot will be very high. From this perspective, the current study proposes:

H5: Management support positively influences the adoption of Chatbots in service provision.

Innovative behaviour allows the organisation to grow and gain competitive advantages over competitors. Organisational innovativeness has been defined as the extent to which a firm is ready to impart innovation (Mikalef et al., 2022b). For the organisation to grow, it must be prepared to embrace innovation by providing adequate resources to enable it to experiment and develop new technological ideas, products, and services (Misuraca et al., 2020). Likewise, with AI, the organisation needs to allow more experimentation with various chatbot solutions to enable automation across multiple customer service channels. Past studies have confirmed that organisational innovativeness positively affects the adoption of technology (Abaddi, 2024; Mikalef et al., 2022b; Misuraca et al., 2020; Smit et al., 2020). In the case of Chatbot, if the organisation allows innovativeness in AI-based technology such as Chatbot by providing required resources for innovation experiments, this includes having proper infrastructure facilities, research funds, a testing environment and adequate funds (Misuraca et al., 2020), the possibility of adopting it into their business process will be very high. Hence, the hypothesis:

H6: Innovative behaviour positively influences the adoption of Chatbots for service delivery.

Cite paper: Koloseni, D., & Mandari, H. (2026). The Adoption of Intelligent Chatbots in Tanzania: Insights from the Ser-vice Sector, *vol*(12), Issue 1: 16 pages.

Vendor support is the extent to which the vendor provides assistance to help the customers implement and use the technology effectively (Quaddus & Hofmeyer, 2007). When deploying the technology, supporting customers in using it is fundamental to ensuring the organisation gets the most out of it. Vendor support may include training on how to use the technology, as well as technical support for installation and management. The training provided by the vendor will mitigate any risk that may likely occur because of insufficient knowledge of using the technology (Ali Abbasi et al., 2022a). Previous research has shown that the availability of vendor support tends to remove various technological barriers, which may be a limitation on the usage of the technologies; this is because most firms, mainly medium and small, have inadequate Information Communication Technology (ICT) experts required to address technological problems (Ali Abbasi et al., 2022b; Quaddus & Hofmeyer, 2007). Thus, vendor support is critical in technology adoption in such a situation.

Moreover, vendor support influences management to support and help align organisational compatibility with technology adoption initiatives. Top management believes that the availability of vendor support guarantees the smooth utilisation of technology that aligns with the organisation's values and customer needs. Briefly, vendor support heightens top management's intention to support AI adoption initiatives in the organisation and increases organisational compatibility with technology adoption. Several studies have concluded that vendor support positively influences technology adoption (Ali Abbasi et al., 2022b; Fu et al., 2024) Moreover, moderates technology adoption. Similar to the adoption of chatbots, when service providers believe there is adequate support from chatbot service providers, the likelihood of adopting chatbots into their services is very high. Grounded on the preceding discussion, the hypothesis is:

H7: Vendor Support positively influence the adoption of Chatbot in the provision of services.

H7a: Vendor Support moderates the relationship between management support and Chatbot adoption.

H7b: Vendor Support moderates the relationship between compatibility and Chatbot adoption.

A regulatory framework is a streamlined system of laws, regulations, and policies established by a legal entity to oversee and guide the implementation and operation of a technology. This means that whenever there are established rules, standards, regulations, and procedures, the adoption and operationalisation of the technology tends to maintain order, protect consumers' interests, and comply with various requirements. Furthermore, studies have shown that established laws, regulations, and procedures tend to assure the legality of the technology. Several studies have concluded that regulatory frameworks tend to influence the positive adoption of technology (Merhi and Harfouche, 2023; Polisetty et al., 2024; Schwaeke et al., 2024). Similar to the adoption of chatbots, when established laws, rules, regulations, and procedures are in place, their adoption in the service sector will be rapid. Furthermore, the availability of laws, regulations, and policies will affect the impact of organisational readiness and management support on the adoption of Chatbot, as it will enable the organisation to be well prepared to adopt Chatbot and allow management to make informed decisions. Therefore, the hypothesis:

H8: Regulatory Framework positively influences the adoption of Chatbot in the provision of service.

Cite paper: Koloseni, D., & Mandari, H. (2026). The Adoption of Intelligent Chatbots in Tanzania: Insights from the Ser-vice Sector*, vol*(12), Issue 1: 16 pages.

Business Education Journal 12 (2026)

https://doi.org/10.54156/frymj870 journal homepage: https://bej.cbe.ac.tz

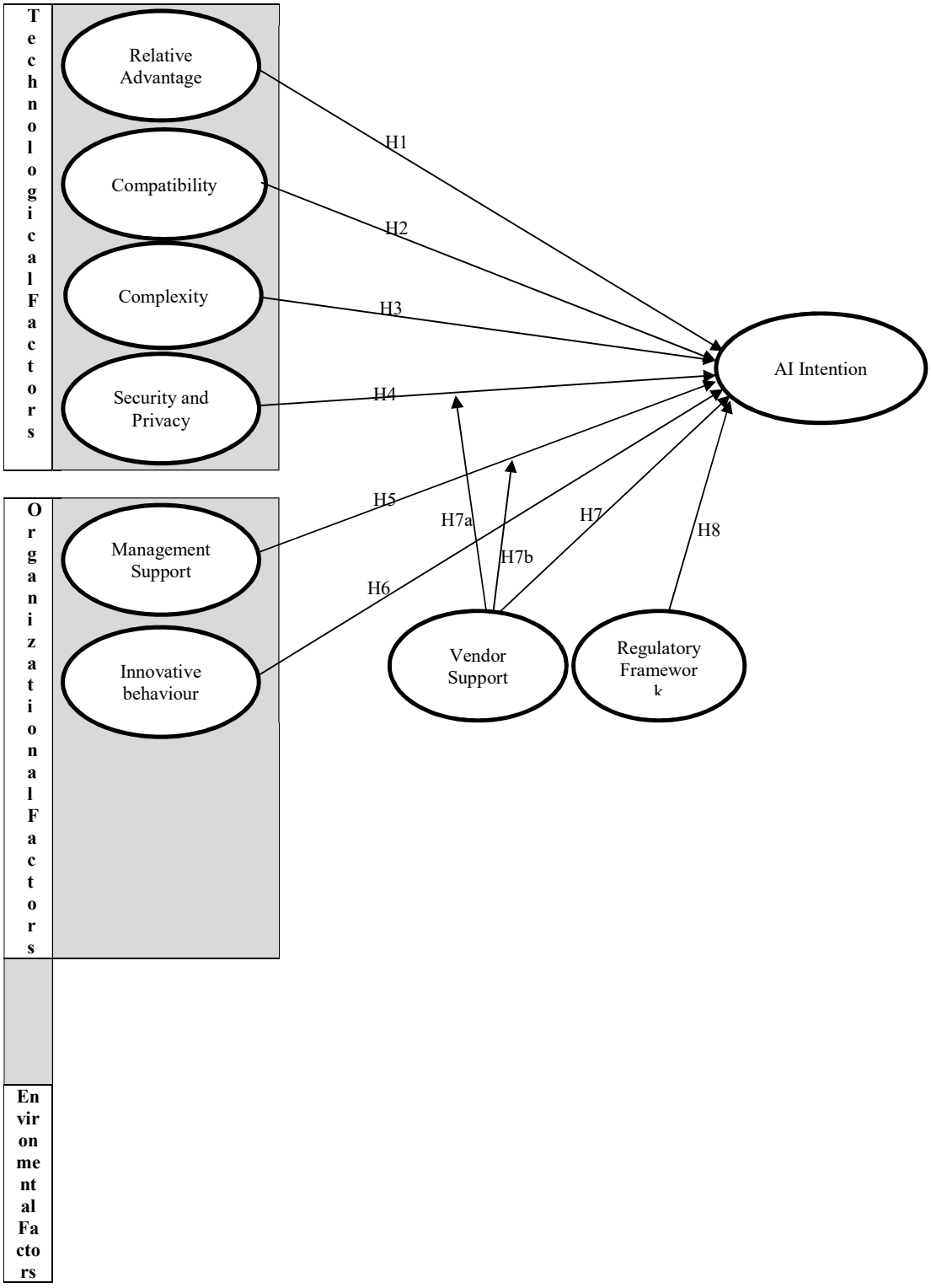

Figure 1 Research Conceptual Framework

3.0 Research Methodology

Cite paper: Koloseni, D., & Mandari, H. (2026). The Adoption of Intelligent Chatbots in Tanzania: Insights from the Ser-vice Sector, *vol*(12), Issue 1: 16 pages.

The study used a survey to collect data and assess the hypothesised relationships. A self-administered questionnaire was also used to collect the required data. The study developed the research instrument using pre-validated measurement items from past studies. The adopted measurement items were customised to reflect the context of this study. Measurement items were measured using a five-point Likert scale ranging from Strongly Disagree (1) to Agree (5) Strongly. The measurement items were as follows: innovative behaviours from (Scott et al., 1994) and (Tripopsakul, 2018), vendor support from (Lee & Larsen, 2009) and Boonsiritomachai et al. (2016), the regulatory framework from (Pudjianto et al., 2011), management support from (Pudjianto et al., 2011) and (Tripopsakul, 2018), security and privacy from (Cass & Fenech, 2003), relative advantages, complexity and compatibility from Jaradat et al. (2022), and (Puklavec et al., 2018) and adoption from (Tan et al., 2009)Jaradat et al. (2022). Baig et al. (2021). The study adopted a multi-sequential design approach to ensure the research methodology is valid and reliable. To examine the content validity of the developed instrument, a group of six information systems (IS) experts from academia and industry were invited to explore each item's relevance, simplicity, ambiguity and clarity. The content validity index (CVI) was further adopted to evaluate each questionnaire item (Dalawi et al., 2023). Each item was evaluated using a four-interval scale (1 = not relevant; 2 = needs some revision; 3 = needs minor revision, and 4 = very relevant). Only the item accepted by five IS experts with an I-CVI of 0.78 was assumed to be relevant (Dalawi et al., 2023). As a result, five items were dropped due to low CVI. Experts identified some technical issues, which were also addressed. Pre-testing was conducted to assess the validity and reliability of the developed instrument.

The developed instrument was distributed to thirty (30) respondents to determine whether the items were clearly understood and if there was no ambiguity in responding. The pre-testing results indicated that a few items needed revision for proper interpretation. Improvements to the questionnaire were made based on observations. A pilot study was conducted to assess the validity and reliability of the measurement items used to examine the respective construct. Fifty (50) respondents from the service sector were randomly selected to fill in the questionnaire. Confirmatory Factor Analysis was employed to estimate factor loadings. Only items loaded with values greater than or equal to 0.7 were deemed relevant. Only two items were further dropped. The remaining items were deemed reliable and used as the main survey instrument.

The respondents comprised ICT personnel with at least 2 years' experience implementing ICT products and services in the service sector. A convenience sampling technique was employed to distribute questionnaires to participants working in service-sector firms in Tanzania. The electronic questionnaire was either mailed to the company email address or delivered to a company representative via WhatsApp. Participants were invited to complete the form and forward the link to other service providers. The data was collected in four months. Only 246 questionnaires were received and used in the subsequent data analysis. To analyse the data, IBM SPSS Version 24 was used for data cleaning, normality testing, and outlier analysis. To examine the effect of non-responses, the received responses were divided into two groups (early and late). The early respondents (63%) were compared with late respondents (37%) using an independent sample t-test. The result demonstrated no significant difference between the two groups in their responses to the questionnaire items, indicating that the respondents were from the same target population. The profile of the participants is indicated in Table 1.

Table 1 *Profile of Participants*

Variable	*Category*	*Frequency*	*Percentage (%)*
Gender	Male	131	53.3
	Female	115	46.7
Organization Size	Small	46	18.7
	Medium	139	56.5
	Large	61	24.8
Service Sector	Telecom Services	4	1.6
	Financial Services	129	52.4
	Hospitality and Transport Services	91	37.0
	Health and Medical Services	17	6.9

Cite paper: Koloseni, D., & Mandari, H. (2026). The Adoption of Intelligent Chatbots in Tanzania: Insights from the Ser-vice Sector, *vol*(12), Issue 1: 16 pages.

	Other Service Sectors	5	2.0

4.0 Findings

Since the study's focus is to confirm the hypothesised relationship, covariance-based Structural Equation Modelling was considered over variable-based Structural Equation Modelling. Therefore, SmartPLS version 4 software was adopted for two-step analyses: measurement and structural model analyses. The validity and reliability of the measurement model were tested to examine the quality of the research model. Prior research suggested that Cronbach's alpha, composite reliability, and average variance extracted (AVE) should be evaluated to explore the measurement model's reliability (Hair et al., 2012).

Furthermore, discriminant validity was assessed using the Heterotrait-Monotrait Ratio (HTMT), and convergent validity using AVE. Based on the above-recommended tests, Table 2 indicates that the AVE values are above 0.5, as recommended by (Bagozzi & Yi, 1988). These results justify that convergent validity for all constructs was achieved. Further analysis in Table 2 shows that composite reliability (rho_a) and Cronbach's alpha values exceed the recommended threshold of 0.7 (Hair et al., 2012), indicating that the measurement model is reliable. Regarding discriminant validity, Table 3 shows that the HTMT is below 0.85, as recommended by (Henseler, Ringle and Sarstedt, 2015). Hence, the finding justifies the conclusion that discriminant validity was achieved. Overall, the findings conclude that all constructs are explicitly independent and reliable.

Furthermore, the Variance Inflation Factor (VIF) was employed to evaluate the presence of Common Method Bias (CMB) on the collected data. The findings show that VIF values are below 3.3, indicating the absence of CMB (Kock, 2015).

Table 2 *Reliability and Convergent Validity Results*

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
AI	0.931	0.931	0.956	0.878
COMP	0.792	0.824	0.904	0.826
COX	0.945	0.951	0.965	0.901
IB	0.939	0.942	0.961	0.892
MGT	0.922	0.933	0.945	0.811
RA	0.959	0.959	0.973	0.924
RF	0.921	0.952	0.962	0.926
SEC	0.955	0.956	0.963	0.787
VS	0.896	0.900	0.951	0.906

Key:

COMP: Compatibility COX: Complexity IB: Innovative Behaviour Mgt: Management Support
RA: Relative Advantages RF: Regulatory Framework SEC: Security and Privacy VS: Vendor Support

AI: AI adoption

Table 3 *Hetero Trait-Monotrait Ratio*

	AI	COMP	COX	IB	MGT	RA	RF	SEC	VS
AI									
COMP	0.085								
COX	0.745	0.092							
IB	0.786	0.138	0.580						
MGT	0.866	0.227	0.700	0.859					
RA	0.803	0.047	0.526	0.891	0.747				
RF	0.078	0.029	0.077	0.150	0.075	0.147			
SEC	0.837	0.126	0.604	0.853	0.852	0.809	0.131		
VS	0.802	0.035	0.798	0.708	0.695	0.713	0.105	0.687	

A bootstrapping algorithm using the 5000-resampling technique was employed to evaluate the

hypothesised relationships. The results show this model's explanatory power (R2) is 80.4%. The finding denotes that all significant variables contribute to the adoption behaviour of chatbots in the services sector by 80.4%, which is considered a substantial effect per (Sarstedt et al., 2014) suggestions. Furthermore, Figure 2 and Table 4 show that relative advantage, complexity, security and privacy, management support, innovation behaviour, and vendor support have a significant influence; therefore, H1, H3, H4, H5, and H7 were supported. Contrary to expectations, the impact of compatibility and regulatory framework was insignificant; hence, hypotheses H2 and H8 were rejected.

Furthermore, the analysis presented the effect size for all significant variables, as follows: relative advantage (f2=0.056), complexity (f2=0.044), security and privacy (f2=0.046), Management support (f2=0.187), innovation behaviour (f2=0.038) and vendor support (f2=0.058). According to (Cohen, 1988), all variables exerted small effect sizes. However, despite the small effects, these variables are still meaningful in decision-making ((Lowry and Gaskin, 2014).

Further analysis was performed to evaluate the moderating effects of vendor support on the management support and compatibility factors. The findings in Table 5 indicate that vendor support moderates the effect of management support on AI technology adoption in the service sector. Furthermore, Figure 3 depicts the moderating effect of vendor support on management support. Hence, H7a was accepted, while H7b was rejected.

Table 4 Hypotheses Testing Results

Hypotheses and Paths			***β***	***t*-values**	***p*- values**	**Decision**
H1: Relative advantage	→	AI intention	0.209	2.076	0.038	Supported
H2: Compatibility	→	AI intention	0.019	0.593	0.553	Not Supported
H3: Complexity	→	AI intention	-0.057	3.094	0.002	Supported
H4: Security and Privacy	→	AI intention	0.299	2.602	0.009	Supported
H5: Management support	→	AI intention	0.373	4.402	0.000	Supported
H6: Innovation Behaviour	→	AI intention	0.249	1.993	0.046	Supported
H7: Vendor Support	→	AI intention	0.143	1.995	0.046	Supported
H8: Regulatory Framework	→	AI intention	0.027	0.879	0.379	Not Supported

Table 5 Moderation Testing Results

Hypotheses and Paths			**STDEV**	***t-values***	***p*- values**	**Decision**
H7a: Vendor Support x Management Support	→	AI intention	0.039	2.744	0.006	Supported
H7b: Vendor Support x Compatibility	→	AI intention	0.035	1.671	0.095	Not Supported

Business Education Journal 12 (2026)

https://doi.org/10.54156/frymj870 journal homepage: https://bej.cbe.ac.tz

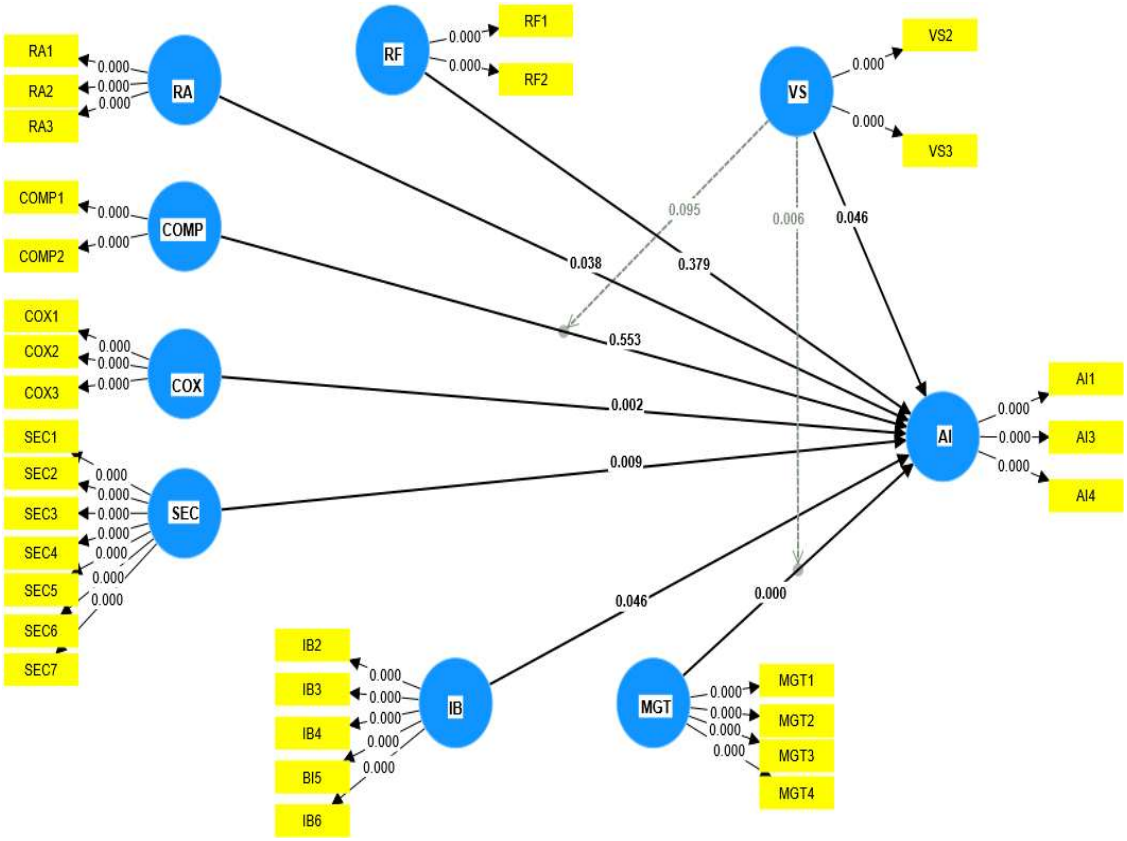

Figure 2 Structural Model Analysis with *P*-values

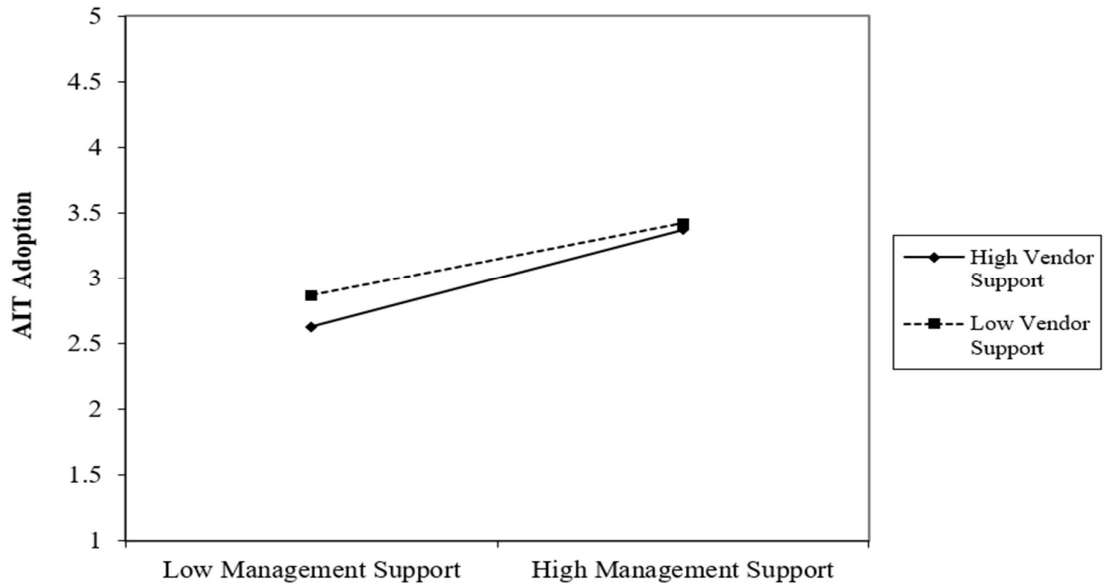

Figure 3 The Moderating Impact of Vendor Support on the Relationship between Compatibility and Chatbot Adoption

Cite paper: Koloseni, D., & Mandari, H. (2026). The Adoption of Intelligent Chatbots in Tanzania: Insights from the Ser-vice Sector, *vol*(12), Issue 1: 16 pages.

5.0 Discussion

AI has revolutionised how services are delivered in various industries, and the service sector is no exception. Advantages such as 24/7 delivery, personalised services, and enhanced customer care have improved customer service in multiple sectors. In developed countries, the adoption of AI has been leading the charge in fostering innovation, efficiency in service delivery, and enhanced customer care. Nevertheless, in developing countries, AI adoption in the service sector is still in its infancy. An examination of its adoption in Tanzania's service sector found that relative advantage significantly influences chatbot adoption. This result collaborates with previous findings that have concluded that relative advantage significantly impacts the adoption of AI (Horani et al., 2023; wael AL-khatib, 2023; Ishengoma and John, 2024). Findings show that once the organisation understands the expected benefits of using AI technologies, it is more likely to adopt and use chatbots in production and service delivery. Advantages such as improved productivity, customer service efficiency and enhanced service delivery necessitate the adoption of AI technologies such as chatbots (Ishengoma & John, 2024). Additionally, findings from this study indicate that compatibility does not significantly influence chatbot adoption. This finding contradicts the study conducted in Tanzania by Ishengoma and John (2024) and Nguyen, Nguyen, and Dang (2022), which indicated that having an AI solution compatible with organisational workflows is essential for adopting AI or ML technologies. Possibly, compatibility is not considered necessary in this study because of the value a chatbot is expected to offer. Since the service sector believes that using AI technologies, such as chatbots, could improve service efficiency, reduce costs, and enhance decision-making, most organisations may not consider compatibility significant compared to the expected benefits. Furthermore, due to rapid technological change and the need to adopt sophisticated technologies in production organisations, most organisations may consider changing how they operate and deliver services. As a result, compatibility may not be deemed to be an essential factor. (Maduku, 2021) suggested that over-dependence on the traditional way of operating may limit innovation and, hence, restrict the adoption of disruptive technologies.

The findings show that complexity negatively and significantly influences chatbot adoption in the service sector. This finding aligns with prior studies, which have concluded that complexity negatively affects AI adoption (Almaiah et al., 2022; Heimberger et al., 2024; Horvat & Heimberger, 2022). Prior research shows that most manufacturing firms hesitate to implement Chatbots in their business processes due to the difficulty of implementing AI and the lack of practical expertise required to operate AI in service delivery (Wael Al-khatib, 2023; Heimberger, Horvat and Schultmann, 2024). Furthermore, previous studies have shown that policymakers are concerned about implementing AI in production because it may disrupt production and productivity due to technical issues in its use (Ishengoma & John, 2024b). This means the organisation must invest more to understand how to implement and use a chatbot smoothly. Security and privacy are significant factors in Tanzania's adoption of AI. The findings from this study are similar to previous studies that have concluded that strong security and privacy significantly influence chatbot adoption (Frank et al., 2021; Ishengoma & John, 2024). This means that when the service sector believes that using chatbots in their business will jeopardise security and privacy, they will likely adopt AI. (Ishengoma and John, 2024) concluded that in the Tanzanian context, AI solutions are likely to be adopted if there is proven evidence that they are reliable, robust and secure.

Furthermore, the results from this study show that management support significantly influences the adoption of chatbots in Tanzania's service sector. This result is supported by previous studies, which have also noted that management support tends to affect the adoption of AI (Nguyen, Nguyen and Dang, 2022; Horani et al., 2023; wael AL-khatib, 2023). However, the impact of management support in this study is contrary to Alghamdi (2020), which shows that it has no significant influence on the adoption of AI and machine learning (ML). Results from this study show that management support significantly influences chatbot adoption in Tanzania's service sector. This finding supports previous studies concluding that management support is critical in adopting disruptive technologies, including chatbots (Abaddi, 2024; Ali & Khan, 2024; Panda et al., 2023). This result suggests that management should provide adequate support to ensure the adoption of chat in Tanzania's service sector.

The study also found that vendor support significantly influences chatbot adoption in Tanzania.

Cite paper: Koloseni, D., & Mandari, H. (2026). The Adoption of Intelligent Chatbots in Tanzania: Insights from the Ser-vice Sector, *vol*(12), Issue 1: 16 pages.

Similar to this finding, (Pillai et al., 2022) and (Siradhana and Arora, 2024) suggested that vendor support substantially influences the adoption of AI. This means chatbot vendors are expected to provide technical support to enable the organisation to adopt and use AI solutions smoothly. Moreover, the result shows that innovative behaviour influences the adoption of chatbot technology in Tanzania. This finding matches past studies, which concluded that an innovation culture within the organisation tends to affect the adoption of disruptive technologies (Abaddi, 2024; Mikalef et al., 2022b). This result suggests that an organisation with an innovative culture is more likely to embrace AI technology because technical issues, adaptability challenges, and risks are more easily accommodated, enabling smoother adoption.

The study also found that the regulatory framework does not influence chatbot adoption in the service sector. Since several firms have already started using AI, such as chatbots, in business operations, and there are no regulatory restrictions, the presence or absence of a regulatory framework has no significant impact on chatbot adoption in Tanzania. The findings support (Kumar Bhardwaj, Garg and Gajpal, 2021), who found that regulations do not support AI adoption. However, this finding is contrary to (Merhi and Harfouche, 2023; Polisetty et al., 2024; Schwaeke et al., 2024), who found that regulations play a significant role in AI adoption. Also, some studies, such as (Chatterjee and Sreenivasulu, 2023; Alzebda and Matar, 2024)They have indicated that the regulatory framework has a moderating effect rather than a direct impact on AI adoption. Next, our study confirmed that vendors support moderate management efforts to support chatbot adoption. The finding indicates that vendor support for AI-powered services, such as chatbots, strengthens the firm's management's support for AI adoption. However, the moderating impact of vendor support on the relationship between compatibility and AI adoption, as well as the direct effects of vendor support on chatbot adoption, were insignificant. The non-significant impact of vendor support on chatbot adoption corroborates. (Maduku, 2021), who found that vendor support did not influence the adoption of mobile marketing among SMEs and the adoption of autonomous robots in the supply chain (Shamout et al., 2022).

5.1 Implications for theory and practice

This study enriches the IS literature by extending the TOE framework in the context of chatbot adoption. Specifically, the TOE framework has been extended by incorporating three DOI constructs: complexity, compatibility and relative advantage. Further, unlike previous studies on AI adoption, such as those by Horani et al. (2023), perceived security, privacy and innovative behaviours were incorporated in the proposed research framework as part of technological and organisational factors. The proposed research framework yielded a substantial explanatory power of 80.4% ($R2 = 0.804$), further validating the extension of this study's TOE framework. Additionally, unlike previous studies that employed DOI to investigate chatbot adoption, the current research unveils the moderating impact of vendor support on the linkages between organisational compatibility and management support, and Chatbot adoption.

Furthermore, the findings suggest that the management of firms that use chatbots in their operations should provide adequate support, such as sufficient budget and other resources, to facilitate chatbot adoption within the organisation. The firm's management should also consider providing strategic direction on vision and mission, core values, competitive positioning, and action plans for adopting AI technologies, such as chatbots. By doing so, firms can align their AI adoption plans with their primary objectives. Additionally, firms' management should consider issuing directives to monitor and mitigate risks associated with the implementation of AI projects, such as Chatbots. To address the complexity of using chatbots, firms should ensure that training is provided to gain the required competency in AI technologies, such as Chatbots.

Furthermore, management should ensure that the latest and appropriate infrastructure is available to support the implementation and use of AI solutions. Regarding the vendors, they should ensure that technical expertise for installation, customisation, configuration, and troubleshooting support is provided promptly to avoid service disruptions and enhance the business's operational effectiveness. Since support boosts management's desire to support chatbot adoption initiatives within the firm, it is crucial to improve the vendor-firm relationship to maximise the vendor's potential to accelerate adoption. It is also imperative for firms to stress security and privacy to increase users' confidence. Through the ministry and agencies responsible for ICT, the government should cultivate firms'

innovative behaviours by fostering a culture of experimentation, offering incentives and recognition for innovation, and promoting collaboration and knowledge sharing among firms. This will accelerate the adoption of Chatbots in the service sector.

5.2 Limitations and Future Directions

Notwithstanding its contributions to AI technology adoption, such as chatbots, the current study has a few limitations worth addressing in future research. First, the current research focused on the adoption of chatbots in Tanzania; therefore, it is geographically limited, and the findings may not be generalisable beyond Tanzania. Thus, future research could investigate chatbot adoption across countries and cultures to enhance the understanding of AI adoption. Second, the current study's findings pertain to the service sector and therefore can only be applied to it. Since AI technologies, such as chatbots, are widely used across sectors, including agriculture and education, future studies may explore their adoption in other sectors. Third, the current study employed a quantitative research approach. Thus, we encourage future research to explore chatbot initial and post-adoption aspects using a mixed-methods approach to capture comprehensive qualitative and quantitative insights.

6.0 Conclusion

This study has explored chatbot adoption in the Tanzanian service sector. It confirms that for firms to embrace and adopt chatbot technology, awareness of the benefits AI, such as Chatbots, could bring to a firm's operations is vital. Also, the chatbot service provider should make the technology more accessible and guarantee the firm's and its customers' security and privacy. Moreover, top management should lead and support AI adoption initiatives within the firm, including providing financial support, employee training, and developing internal policies. Furthermore, firms' innovative behaviour has emerged as critical in driving innovation within firms, including the adoption of chatbots. Lastly, the findings confirmed that vendor support strengthens firms' intentions to adopt chatbots. Therefore, it cements the role of vendor support, especially the adoption of a new technology. Overall, this research deepens our understanding of the multifaceted interactions among technological, organisational, and environmental dynamics in the context of chatbot adoption, particularly in the service sector. It unlocks the plethora of avenues for practitioners, managers and policymakers to leverage the acceptance of AI for the service provision in the service sector

References

Abaddi, S. (2024a). Factors and moderators influencing artificial intelligence adoption by Jordanian MSMEs. *Management & Sustainability*: *An Arab Review, 4* (1): 47–73. https://doi.org/10.1108/MSAR-10-2023-0049

Al Haderi, S., Rahim, N. A., & Bamahros, H. (2018). Top management support accelerates the acceptance of information technology. *Medwell J*, *13*, 175–189.

Ali Abbasi, G., Abdul Rahim, N. F., Wu, H., Iranmanesh, M., & Keong, B. N. C. (2022a). Determinants of SME's social media marketing adoption: competitive industry as a moderator. *Sage Open*, *12*(1), 21582440211067220.

Ali Abbasi, G., Abdul Rahim, N. F., Wu, H., Iranmanesh, M., & Keong, B. N. C. (2022b). Determinants of SME's social media marketing adoption: competitive industry as a moderator. *Sage Open*, *12*(1), 21582440211067220.

Ali, W., & Khan, A. (2024). Factors Influencing Readiness for Artificial Intelligence: A Systematic Literature Review. *Data Science and Management, 8,* 224–236.

Almaiah, M. A., Alfaisal, R., Salloum, S. A., Hajjej, F., Shishakly, R., Lutfi, A., Alrawad, M., Al Mulhem, A., Alkhdour, T., & Al-Maroof, R. S. (2022). Measuring institutions' adoption of artificial intelligence applications in online learning environments: Integrating the innovation diffusion theory with technology adoption rate. *Electronics*, *11*(20), 3291.

Alt, M.-A., Vizeli, I., & Săplăcan, Z. (2021a). Banking with a chatbot–A study on technology acceptance. *Studia Universitatis Babes-Bolyai Oeconomica*, *66*(1), 13–35.

Alt, M.-A., Vizeli, I., & Săplăcan, Z. (2021b). Banking with a chatbot–A study on technology acceptance. *Studia Universitatis Babes-Bolyai Oeconomica*, *66*(1), 13–35.

Alzebda, S., & Matar, M. A. I. (2024). *Factors affecting citizen intention toward AI acceptance and adoption : the moderating role of government regulations*. Competitiveness Review (2025) 35 (2): 434–455.

Cite paper: Koloseni, D., & Mandari, H. (2026). The Adoption of Intelligent Chatbots in Tanzania: Insights from the Ser-vice Sector*, vol*(12), Issue 1: 16 pages.

https://doi.org/10.1108/CR-06-2023-0144

Andrews, J. E., Ward, H., & Yoon, J. (2021). UTAUT as a model for understanding intention to adopt AI and related technologies among librarians. *The Journal of Academic Librarianship*, *47*(6), 102437.

Awa, H. O., Ojiabo, O. U., & Emecheta, B. C. (2015). Integrating TAM, TPB and TOE frameworks and expanding their characteristic constructs for e-commerce adoption by SMEs. *Journal of Science & Technology Policy Management*, *6*(1), 76–94.

Awa, H. O., Ukoha, O., & Emecheta, B. C. (2016). Using the T-O-E theoretical framework to study the adoption of the ERP solution. *Cogent Business and Management*, *3*(1). https://doi.org/10.1080/23311975.2016.1196571

Ayanwale, M. A., & Ndlovu, M. (2024). Investigating factors of students' behavioural intentions to adopt chatbot technologies in higher education: Perspective from expanded diffusion theory of innovation. *Computers in Human Behaviour Reports*, *14,* 100396. https://doi.org/10.1016/j.chbr.2024.100396.

Aziz, A. S. A., & Wahid, N. A. (2020a). Do new technology characteristics influence intention to adopt for manufacturing companies in Malaysia? *First ASEAN Business, Environment, and Technology Symposium (ABEATS 2019)*, 30–35.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, *16*(1), 74–94.

Balakrishnan, J., & Dwivedi, Y. K. (2021). Role of cognitive absorption in building user trust and experience. *Psychology & Marketing*, *38*(4), 643–668.

Cai, W., Richter, S., & McKenna, B. (2019). Progress on technology use in tourism. *Journal of Hospitality and Tourism Technology*, *10*(4), 651–672.

Cass, A. O., & Fenech, T. (2003). Web retailing adoption : exploring the nature of internet users Web retailing behaviour. *Journal of Retailing and Consumer Services*, *10*, 81–94.

Chatterjee, S., & Sreenivasulu, N. S. (2023). *Impact of AI regulation and governance on online personal data sharing : from a sociolegal, technology and policy perspective*. *14*(1), 157–180. https://doi.org/10.1108/JSTPM-07-2020-0103

Cohen, J. (1988). *Statistical Power Analysis for the Behavioural Sciences* (2nd ed.). Hillsdale.

Dalawi, I., Isa, M. R., Chen, X. W., Azhar, Z. I., & Aimran, N. (2023b). Development of the Malay Language of understanding, attitude, practice and health literacy questionnaire on COVID-19 (MUAPHQ C-19): content validity & face validity analysis. *BMC Public Health*, *23*(1), 1131.

Das, S., & Datta, B. (2024). Application of UTAUT2 on Adopting Artificial Intelligence-Powered Lead Management System (AI-LMS) in passenger car sales. *Technological Forecasting and Social Change*, *201*, 123241.

Frank, B., Herbas-Torrico, B., & Schvaneveldt, S. J. (2021). The AI-extended consumer: technology, consumer, and country differences in the formation of demand for AI-empowered consumer products. *Technological Forecasting and Social Change*, *172*, 121018.

Frau, L. (2022). The Impact of Top Management Support on the Behavioural Intention to Adopt Information Systems: A Literature Review. *Available at SSRN: https://ssrn.com/abstract=4284854 or http://dx.doi.org/10.2139/ssrn.4284854*

Fu, C.-J., Silalahi, A. D. K., Yang, L.-W., & Eunike, I. J. (2024). Advancing SME performance: a novel application of the technological-organisational-environment framework in social media marketing adoption. *Cogent Business & Management*, *11*(1), 2360509.

Gangwar, H., Date, H., & Raoot, A. D. (2014a). Review on IT adoption: insights from recent technologies. *Journal of Enterprise Information Management*, *27*(4), 488–502.

Heimberger, H., Horvat, D., & Schultmann, F. (2024). Exploring the factors driving AI adoption in production: a systematic literature review and future research agenda. *Information Technology and Management*, 1–17.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modelling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135.

Horani, O. M., Al-Adwan, A. S., Yaseen, H., Hmoud, H., Al-Rahmi, W. M., & Alkhalifah, A. (2023a). The critical determinants impacting artificial intelligence adoption at the organisational level. *Information Development*, 1–25.

Horani, O. M., Al-Adwan, A. S., Yaseen, H., Hmoud, H., Al-Rahmi, W. M., & Alkhalifah, A. (2023b). The critical determinants impacting artificial intelligence adoption at the organisational level. *Information Development*, 1–25.

Horvat, D., & Heimberger, H. (2022). AI Readiness: An Integrated Socio-technical Framework. *International Conference on Production Research*, 548–557.

Hradecky, D., Kennell, J., Cai, W., & Davidson, R. (2022a). Organisational readiness to adopt artificial intelligence in the exhibition sector in Western Europe. *International Journal of Information Management*, *65*, 102497.

Cite paper: Koloseni, D., & Mandari, H. (2026). The Adoption of Intelligent Chatbots in Tanzania: Insights from the Ser-vice Sector*, vol*(12), Issue 1: 16 pages.

Hradecky, D., Kennell, J., Cai, W., & Davidson, R. (2022b). Organisational readiness to adopt artificial intelligence in the exhibition sector in Western Europe. *International Journal of Information Management*, *65*, 102497.

Ishengoma, F., & John, E. (2024). Factors influencing the adoption of mobile-based AI services in Tanzanian manufacturing SMEs. *Vilakshan-XIMB Journal of Management*, *22*(2), 234–252. https://doi.org/10.1108/XJM-11-2023-0214

Kalankesh, L. R., Nasiry, Z., Fein, R. A., & Damanabi, S. (2020). Factors influencing user satisfaction with information systems: a systematic review. *Galen Medical Journal*, *9*, e1686.

Kleiner, B. H. (1996). New developments in customer service, Maya Mouawad. *Managing Service Quality*, *6*(2), 49–56.

Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of E-Collaboration*, *11*(4), 1–10.

Kumar Bhardwaj, A., Garg, A., & Gajpal, Y. (2021). Determinants of blockchain technology adoption in supply chains by small and medium enterprises (SMEs) in India. *Mathematical Problems in Engineering*, *2021*, 5537395, 1–14. https://doi.org/10.1155/2021/5537395

Lee, Y., & Larsen, K. R. (2009). Threat or coping appraisal: determinants of SMB executives' decision to adopt anti-malware software. *European Journal of Information Systems*, *18*(2), 177–187.

Lidén, A., & Nilros, K. (2020). *Perceived benefits and limitations of chatbots in higher education*.

Lim, J. S., & Zhang, J. (2022). Adoption of AI-driven personalisation in digital news platforms: An integrative model of technology acceptance and perceived contingency. *Technology in Society*, *69*, 101965.

Lin, Y., Shi, Y., & Ma, S. (2012). *Servitization strategy: priorities, capabilities, and organisational features*.

Lowry, P. B., & Gaskin, J. (2014). Partial least squares (PLS) structural equation modelling (SEM) for building and testing behavioural causal theory: When to choose it and how to use it. *IEEE Transactions on Professional Communication*, *57*(2), 123–146.

Luo, B., Lau, R. Y. K., Li, C., & Si, Y. (2022). A critical review of state-of-the-art chatbot designs and applications. *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery*, *12*(1), e1434.

Maduku, D. K. (2021). Antecedents of mobile marketing adoption by SMEs: Does industry variance matter? *Journal of Organisational Computing and Electronic Commerce*, *31*(3), 222–249.

Merhi, M. I., & Harfouche, A. (2023). *Enablers of artificial intelligence adoption and implementation in production systems*. https://doi.org/10.1080/00207543.2023.2167014

Mikalef, P., Lemmer, K., Schaefer, C., Ylinen, M., Fjørtoft, S. O., Torvatn, H. Y., Gupta, M., & Niehaves, B. (2022a). Enabling AI capabilities in government agencies: A study of determinants for European municipalities. *Government Information Quarterly*, *39*(4), 101596.

Mikalef, P., Lemmer, K., Schaefer, C., Ylinen, M., Fjørtoft, S. O., Torvatn, H. Y., Gupta, M., & Niehaves, B. (2022b). Enabling AI capabilities in government agencies: A study of determinants for European municipalities. *Government Information Quarterly*, *39*(4), 101596.

Misischia, C. V., Poecze, F., & Strauss, C. (2022). Chatbots in customer service: Their relevance and impact on service quality. *Procedia Computer Science*, *201*, 421–428.

Misuraca, G., van Noordt, C., & Boukli, A. (2020a). The use of AI in public services: Results from a preliminary mapping across the EU. *Proceedings of the 13th International Conference on Theory and Practice of Electronic Governance*, 90–99.

Necz, D. (2024). Rules over words: Regulation of chatbots in the legal market and ethical considerations. *Hungarian Journal of Legal Studies*, *64*(3), 472–485.

Nguyen, D. M., Chiu, Y.-T. H., & Le, H. D. (2021). Determinants of continuance intention towards banks' chatbot services in Vietnam: A necessity for sustainable development. *Sustainability*, *13*(14), 7625.

Nguyen, T. L., Nguyen, V. P., & Dang, T. V. D. (2022). Critical factors affecting the adoption of artificial intelligence: An empirical study in Vietnam. *The Journal of Asian Finance, Economics and Business*, *9*(5), 225–237.

Panda, A., Pasumarti, S. S., & Hiremath, S. (2023). Adoption of artificial intelligence in HR practices: An empirical analysis. In *The Adoption and Effect of Artificial Intelligence on Human Resources Management, Part B* (pp. 65–80). Emerald Publishing Limited.

Pillai, R., & Sivathanu, B. (2020). Adoption of artificial intelligence (AI) in talent acquisition for IT/ITeS organisations. *Benchmarking: An International Journal*, *27*(9), 2599–2629.

Pillai, R., Sivathanu, B., Mariani, M., Rana, N. P., Yang, B., & Dwivedi, Y. K. (2022). Adoption of AI-empowered industrial robots in auto component manufacturing companies. *Production Planning & Control*, *33*(16), 1517–1533.

Polisetty, A., Chakraborty, D., Kar, A. K., & Pahari, S. (2024). What determines AI adoption in companies? Mixed-method evidence. *Journal of Computer Information Systems*, *64*(3), 370–387.

Cite paper: Koloseni, D., & Mandari, H. (2026). The Adoption of Intelligent Chatbots in Tanzania: Insights from the Ser-vice Sector*, vol*(12), Issue 1: 16 pages.

Polyportis, A., & Pahos, N. (2024). Understanding students' adoption of the ChatGPT chatbot in higher education: the role of anthropomorphism, trust, design novelty and institutional policy. *Behaviour & Information Technology*, 1–22.

Pudjianto, B., Zo, H., Ciganek, A. P., & Rho. (2011). Determinants of E-Government Assimilation in Indonesia: An Empirical Investigation Using a TOE Framework. *Asia Pacific Journal of Information Systems*, *21*(1), 49–80.

Puklavec, B., Oliveira, T., & Popovič, A. (2018). Understanding the determinants of business intelligence system adoption stages An empirical study of SMEs. *Industrial Management & Data Systems*, *118*(1), 236–261. https://doi.org/10.1108/IMDS-05-2017-0170

Quaddus, M., & Hofmeyer, G. (2007). An investigation into the factors influencing the adoption of B2B trading exchanges in small businesses. In *European Journal of Information Systems* (Vol. 16, Issue 3, pp. 202–215). Taylor & Francis.

Rahman, M. (2023). *Adoption of artificial intelligence in banking services : an empirical analysis*. 4270–4300. https://doi.org/10.1108/IJOEM-06-2020-0724

Rodríguez Cardona, D., Werth, O., Schönborn, S., & Breitner, M. H. (2019). A mixed methods analysis of the adoption and diffusion of Chatbot Technology in the German insurance sector*, Adoption and Diffusion of Chatbot Technology in Insurance,* 1–10. Proceedings of the 25th Americas Conference on Information Systems (AMCIS)

Rogers, E. (1995). *Diffusion of innovations.* Free Press.

Rogers, E. M., Singhal, A., & Quinlan, M. M. (2014). Diffusion of innovations. In *An integrated approach to communication theory and research* (pp. 432–448). Routledge.

Sarstedt, M., Ringle, C. M., Smith, D., Reams, R., & Hair Jr, J. F. (2014). Partial least squares structural equation modelling (PLS-SEM): A useful tool for family business researchers. *Journal of Family Business Strategy*, *5*(1), 105–115.

Scherer, M. U. (2015). Regulating artificial intelligence systems: Risks, challenges, competencies, and strategies. *Harv. JL & Tech.*, *29*, 353.

Schwaeke, J., Peters, A., Kanbach, D. K., Kraus, S., & Jones, P. (2024). The new normal: The status quo of AI adoption in SMEs. *Journal of Small Business Management*, 1–35.

Scott, S. G., Bruce, R. A., Scott, S. G., & Bruce, R. A. (1994). Determinants of Innovative Behaviour : A Path Model of Individual Innovation in The Workplace. *The Academy of Management Journal*, *37*(3), 580–607.

Shamout, M., Ben-Abdallah, R., Alshurideh, M., Alzoubi, H., Kurdi, B. al, & Hamadneh, S. (2022). A conceptual model for the adoption of autonomous robots in the supply chain and logistics industry. *Uncertain Supply Chain Management*, *10*(2), 577–592.

Sheth, J. N. (2022). *AI-driven banking services : the next frontier for a personalised experience in the emerging market*. 1248–1271. https://doi.org/10.1108/IJBM-09-2021-0449

Siradhana, N. K., & Arora, R. G. (2024). Examining the Influence of Artificial Intelligence Implementation in HRM Practices Using the TOE Model. *Vision*, 09722629241231458.

Smit, K., Zoet, M., & van Meerten, J. (2020). *A review of AI principles in practice*.

Sowa, K., Przegalińska, A., & Ciechanowski, L. (2021). Cobots in knowledge work: Human–AI collaboration in managerial professions. *Journal of Business Research*, *125*, 135–142.

Sukums, F., Mzurikwao, D., Sabas, D., Chaula, R., Mbuke, J., Kabika, T., Kaswija, J., Ngowi, B., Noll, J., & Winkler, A. S. (2023). The use of artificial intelligence-based innovations in the health sector in Tanzania: A scoping review. *Health Policy and Technology*, *12*(1), 100728.

Tan, K. S., Chong, S. C., Lin, B., & Eze, U. C. (2009). Internet-based ICT adoption: Evidence from Malaysian SMEs. *Industrial Management and Data Systems*, *109*(2), 224–244. https://doi.org/10.1108/02635570910930118

Thong, J. Y. L., Yap, C. S., & Raman, K. S. (1996). Top Management Support, External Expertise and Information Systems Implementation in Small Businesses. *Information Systems Research*, *7*(2), 248–267. https://doi.org/10.1287/isre.7.2.248

Tornatzky, L.G. & Fleischer, M. (1990). *The Processes of Technological Innovation.* Lexington Books.

Tripopsakul, S. (2018). Social media adoption as a business platform: An integrated TAM-toe framework. *Polish Journal of Management Studies*, *18*(2), 350–362. https://doi.org/10.17512/pjms.2018.18.2.28

Venkatesh, V. (2022). Adoption and use of AI tools: a research agenda grounded in UTAUT. *Annals of Operations Research*, *308*(1), 641–652.

Wael AL-khatib, A. (2023). Drivers of generative artificial intelligence to fostering exploitative and exploratory innovation: A TOE framework. *Technology in Society*, *75*, 102403.

Wang, J., Lu, Y., Fan, S., Hu, P., & Wang, B. (2022). How to survive in the age of artificial intelligence? Exploring the intelligent transformations of SMEs in central China. *International Journal of Emerging Markets*, *17*(4),

Cite paper: Koloseni, D., & Mandari, H. (2026). The Adoption of Intelligent Chatbots in Tanzania: Insights from the Ser-vice Sector*, vol*(12), Issue 1: 16 pages.

1143–1162.

Wang, L., Huang, N., Hong, Y., Liu, L., Guo, X., & Chen, G. (2022). Voice-based AI in Call Centre Customer Service: A Natural Field Experiment. *Call Centre Customer Service: A Natural Field Experiment (July 31, 2022). Production and Operations Management, Forthcoming*.

Zhou, X. (2023). Chatbot Improves the Customer Service in Four Important Industries. *Highlights in Science, Engineering and Technology*, *39*, 339–346.

Cite paper: Koloseni, D., & Mandari, H. (2026). The Adoption of Intelligent Chatbots in Tanzania: Insights from the Ser-vice Sector*, vol*(12), Issue 1: 16 pages.