

# Chatbots and Citizen Satisfaction: Examining the Role of Trust in AI-Chatbots as a Moderating Variable

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**Abstract** – This study seeks to investigate the effect of deploying artificial intelligence (AI)-chatbots on citizen satisfaction within the public sector in Morocco, with a particular emphasis on the moderating variable of trust in AI-chatbots. Through an exploration of this correlation, the study aims to comprehend the way in which the incorporation of AI-chatbots into public services affects the perceptions and levels of satisfaction of citizens, with a great interest in how trust in these technologies could either amplify or lessen the impact of these technologies. The research sheds light on the current landscape of these technologies using a survey that was issued to citizens. The survey reveals that even if chatbots are still in their earliest phases of adoption, they are already meeting citizen expectations.

**Keywords** –Artificial intelligence, chatbots, public sector, trust in AI-chatbots, citizens' satisfaction.

## 1. Introduction

The pandemic caused by COVID-19 has brought about significant changes to the ways in which public services are provided all around the world.

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As result, all aspects of public service delivery are being impacted, forcing many public entities to shift all of their activities online [1]. In light of these considerations, public sector organizations have changed the way they connect with citizens due to the introduction of artificial intelligence technologies [2]. In addition, a new era of digitization and smartification of public services have become a reality and the potential to manipulate these technologies has expanded substantially [3]. Therefore, this technological innovation fueled by artificial intelligence (AI) have started to transform the landscape of public administrations, following a decade of e-government initiatives, primarily geared towards efficiency and cost savings [4]. While, there exists a considerable promise in deploying artificial intelligence (AI) within public services, the concern of citizens regarding its growth and use presents a major hurdle, consequently gaining insight into the general public's acceptance of AI in public administrations holds paramount importance [5]. Moreover, the integration of chatbots in public services, is justified by a variety of issues including the influence of COVID-19 and service disruptions. As a result, chatbots have emerged as a valuable instrument for delivering accurate and timely information to the public [6].

In addition, chatbots are a practicable solution to optimize communication processes and enhance user satisfaction [7].

To pave the way for the discussion, the initial step is to explore the chatbots. A chatbot is a specialized form of artificial intelligence (AI) that uses natural language processing (NLP) technology to engage conversations with users [8]. Its core functions involve extracting relevant information from user-supplied text by discerning the user's intent. While, artificial general intelligence (AGI) can perform a variety of tasks at a level comparable to humans [9].

Nevertheless, a critical analysis of previous studies reveals that a considerable study gap exists, however, in terms of comprehending the complex role that trust plays in the interplay between chatbots services and citizens' satisfaction [7].

It is noteworthy to highlight that the implementation of artificial intelligence (AI) has considerable prospects for the Moroccan public service to improve its quality and development in a variety of domains in addition to health, education, and administration processes. Moreover, there are no laws or regulations governing the use of AI-chatbots, according to research on national artificial intelligence (AI) plans, the following areas as security, data infrastructure, legislation, and regulation are crucial to the effective deployment of chatbots in public services [10]. It calls for a more in-depth investigation of this relationship, the research question that emerges in light of this content is as follows: does trust influence the relationship between chatbot interaction quality and citizen satisfaction?

Through reviewing the existing literature, a substantial gap is revealed through the introduction of chatbots in Moroccan public entities, especially when it comes to public trust in artificial intelligence (AI) [11].

A critical analysis of previous studies reveals that more research on trust and citizen satisfaction is needed in the content of public sector chatbots implementation [12].

In addition, investigating how individuals form positive perceptions of AI technology is crucial for attaining transformation objectives as public organizations utilize information technology (IT) to enhance governance and seek providing citizens with highest levels and values of services [13].

Furthermore, the significance of trust in user interactions has been highlighted in research that have investigated factors such as perceived anthropomorphism and confidence in chatbots conversations [14].

In summary, the study provides a multifaceted analysis of the challenges and opportunities associated with chatbot implementation in Moroccan public entities. By addressing critical aspects such as trust, citizen satisfaction, and ethical considerations, aiming to guide the effective and responsible adoption of chatbot technology in Morocco's public sector.

## **2. Background of the Theory and Hypotheses Development**

This section delves into the theoretical foundations and the development of hypotheses relevant to the implementation of artificial intelligence (AI) in public sector services,

specifically through the use of chatbots. The purpose of this literature review is to investigate the ways in which chatbots using artificial intelligence might affect citizen engagement, satisfaction, and trust in public services. The paper seeks to examine the current research and theoretical models to identify critical characteristics that drive effective interactions between individuals and AI systems, as well as theories on the possible effects of these technologies on public trust and satisfaction levels.

### **2.1. Artificial Intelligence based on Chatbots**

The concept of artificial intelligence (AI) was introduced in the 1950s, when Alan Turing wrote an article that many researchers consider as the foundational work in the field [15].

Furthermore, the use of artificial intelligence (AI) has the potential to increase and facilitate human work in many areas, on one hand there are ethical, transparency and accountability concerns that could arise if artificial intelligence is given huge decision-making powers [16].

On the other hand, recent advances in artificial intelligence (AI) have made it possible to create chatbots that are both highly intelligent and highly efficient [17].

A chatbot can stimulate human conversation through the use of voice or text written in natural language. In addition, prior research has examined the implementation of chatbots powered by artificial intelligence in a variety of industries, such as education, health, and tourism [8].

Researchers have also investigated, the reasons why people use powered chatbots including anthropomorphism in communication, ease of use, trust in artificial intelligence (AI) and a variety of other topics [18].

Another pivotal aspect to consider is that, the use of artificial intelligence (AI) in public settings has a history spanning over a decade, however, this field has just lately garnered significant pace, primarily because of technological advancements. This transformation has led to an increase in the development and adoption of AI applications within the public sector [19].

Most notably there is now a widespread recognition that artificial intelligence (AI) has the ability to fundamentally alter public management. Public administrations have integrated AI based technologies to serve as a form of algorithmic bureaucracy [20]. These technologies employ natural language processing (NLP) techniques and rely on conversational agents or chatbots as vehicles for offering information and provide services for citizens [21].



## 2.2. Focus on Citizens' Satisfaction

The body of prior research in the field of information systems (IS), particularly regarding chatbots within e-government frameworks, has predominantly focused on several pivotal aspects. These aspects include user acceptance, the dynamics of human-chatbot interactions, user satisfaction, and the foundational system architecture [29]. It has been consistently observed that a user's satisfaction with an information system serves as a reliable indicator of the system's efficacy in fulfilling user needs and requirements [30]. This observation underscores the importance of designing e-government chatbots in a manner that aligns with citizens' needs, thereby fostering empowerment and enhancing user satisfaction [31].

Moreover, a considerable volume of studies, have established a significant correlation between user satisfaction with information systems and their subsequent intention to utilize such systems [32]. This relationship suggests that the satisfaction of citizens with e-government chatbots is likely to influence their willingness to engage with these platforms [33].

Therefore, it is imperative for the design and implementation of e-government chatbots to prioritize user satisfaction as a mean to encourage their adoption and use [28].

In addition to these findings, the International Organization for Standardization (ISO) defines user experience (ISO 9241-210) as encompassing the reactions and responses resulting from the actual or anticipated use of a system. This definition broadens the scope of consideration beyond immediate satisfaction to include various facets of the user's interaction with the system [34]. It is crucial to acknowledge that user satisfaction is significantly influenced by the content of the communication and the nature of tasks that users seek to accomplish using the system. Moreover, factors such as perceived competence, trust, and confidence play essential roles in shaping user satisfaction [35].

The hypothesis explores the intersection of technology and public engagement demonstrating how chatbots significantly enhance citizen satisfaction. In light of these considerations, it is evident that chatbots provide personalized assistance, leveraging machine learning and natural language processing (NLP) to optimize responses to personal user needs and preferences. In addition, chatbots automate common questions, which simplifies decision-making [36].

Consequently, this improves service efficiency and reduces wait times. Chatbots play a vital role in promoting government transparency, offer timely accurate information, and facilitate continuous

improvement in service quality by analyzing feedback and interactions [28].

Given these insights, it becomes clear that the successful deployment of e-government chatbots not only hinges on their technical design but also on a deep understanding of the user experience [37]. By ensuring that these systems are capable of effectively communicating with users and facilitating the completion of desired tasks, developers can significantly enhance user satisfaction. In accordance with that, the following hypothesis is formed:

**H1: There is a significant positive relationship between the use of chatbots and citizen's satisfaction.**

## 2.3. Trust and Citizen Satisfaction

Trust plays a pivotal role in the technology acceptance model (TAM), and its further developments, such as TAM2 and the Unified Theory of Acceptance and Use of Technology (UTAUT), highlighting the critical influence on the willingness to adopt and continuously use technological systems [38]. This concept asserts that users' perceived trustworthiness of a technology significantly shapes their adoption choices, alongside factors like perceived ease of use and usefulness, as identified by researchers, specifically in the content of AI-systems, trust acts as a key moderator that determines how users' perceptions translate into adoption and usage behaviors [39].

Moreover, the influence of trust on technology adoption exhibits substantial variation across different cultural and organizational landscapes indicating a diverse effect on technology acceptance and utilization patterns [40]. This variability highlights the complex nature as a construct, within the content of AI technology usage, where it not only affects initial acceptance but also user satisfaction [41].

Further exploration of this concept reveals that trust's significance extends into public administration and political science, where it acts as a key determinant of technology satisfaction and adoption [42]. Despite, the absence of empirical studies directly linking public trust with the performance of public sector chatbots, the current literature underscores the need for further investigation into enhancing trust in artificial intelligence (AI) that has the potential to improve public satisfaction with AI driven services, such as chatbots in government interactions. Therefore, trust is an essential component in the process of improving citizen/customer satisfaction [12].

Furthermore, as the level of trust increases, the level of satisfaction experienced by customers/citizens also increases [43].

Similarly, this hypothesis suggests that trust in artificial intelligence (AI) plays a critical role in shaping the impact of chatbots interactions on citizen satisfaction [44]. It sheds light on the complex interplay between user experience and trust in AI. The way citizens who trust artificial intelligence (AI) are more inclined to trust chatbots as reliable, intelligent and capable of addressing their needs, which improves their satisfaction [40].

In the field of public administrations and political science, trust is an essential topic of investigation that transcends psychological and ergonomic concerns [45]. Despite the lack of empirical research particularly addressing the relationship between public trust and the usefulness of chatbots in public sector applications, various studies have highlighted the critical role that government institutions and services play in developing public trust [5].

Further, is it critical to contemplate the nascent function of artificial intelligence (AI) chatbots in the provision of public services and their capacity to impact citizens satisfaction [46].

Research studies have shown that trust in AI-chatbots can have a positive impact on citizen satisfaction. Specifically, findings indicate that the disposition to trust positively affects the use of e-government services, which in turn influences citizens' satisfaction [47].

Moreover, information and service quality play a significant role in influencing citizens' trusting beliefs when interacting with e-government chatbots, ultimately impacting satisfaction levels [48].

In summary, integrating AI-chatbots in the provision of public services opens up new ways for citizens to engage with their government. The performance of these AI systems including their provision and usability can have a substantial effect on citizens satisfaction. Accordingly, the following hypothesis is formed:

**H2: Trust in AI chatbots impacts positively citizen's satisfaction**

#### **2.4. The Moderating Effect of Trust**

In order to make an effective use of technology applications, trust is essential, it represents a significant barrier to satisfaction through the utilization of technology applications is lack of trust. [49]

Examining the initial public trust in chatbots deployed for various services carries substantial implications.

Nonetheless, there exists a noticeable research gap regarding artificial intelligence (AI) regarding public institutions; in particular, the level of confidence in AI-chatbots is an important and intriguing topic in Morocco. The elements that influence confidence in chatbots and its effects have been the subject of much research into chatbot trust, its antecedents, and behavioral outcomes [10].

The importance of incorporating artificial intelligence (AI) into strategic goals to accelerate development targets has been brought to light by efforts such as Morocco AI, which seek to foster AI growth in Morocco. Concerns about AI ethics in Morocco center on the need for principles like privacy, data security, anonymity, openness, human liberty, and accountability in order to ensure the responsible management of reliable AI [50].

All of these initiatives highlight how AI is changing the game and how important trust is for AI-chatbots to gain traction and be used by many industries, including Moroccan government agencies [50].

In the world of artificial intelligence chatbots, privacy and security are paramount, and Morocco is no exception. Data security and privacy are major worries with AI chatbots. Questions regarding legislation, transparency, and privacy arise due to the fact that chatbots, driven by big language models, have access to massive volumes of data [51].

Ensuring data security and privacy is of utmost importance in the context of ethical chatbot development. To protect user privacy, it is necessary to implement measures such as clear privacy policies, consent from users, limited data collecting, safe storage, and data erasure after usage [51].

AI-chatbot providers can increase trust and guarantee the ethical use of chatbot technology in Morocco and worldwide by implementing strong data protection practices and security measures [10].

Trust plays a critical role as a moderator in the interaction between chatbots adoption and citizens' satisfaction, especially in the context of AI and chatbots in public sector [12]. Thus, it can be predicted that:

**H3: Trust in AI-chatbots moderates the relationship between the use of chatbots and citizen's satisfaction.**

### **3. Methods**

This section expounds upon the research methodologies and data analysis techniques utilized to investigate the interactions between citizens and chatbots deployed within the public sector. The methodologies described in this section are designed to rigorously evaluate the effectiveness of chatbot technology in improving and facilitating citizen interactions with public sector services.

### 3.1. Sample

To investigate the integration and efficacy of chatbots in the Moroccan public sector, a survey was administered to a targeted group of 200 Moroccan citizens. These respondents were selected for their prior interactions with digital public services, ensuring they could provide relevant and informed insights on their experiences with chatbots. The survey content for the study was created through collaboration with a diverse group of experts spanning and practitioners within the public sector, they had reviewed diligently the survey questions to ensure their quality. Our target demographic consisted of citizens who aim to interact with public services via chatbots. A non-probabilistic sampling method was employed, deploying both printed questionnaires and online survey to reach a broad audience effectively.

Data collection occurred from early November until the end of February. Printed surveys were distributed in the city of Fez, while an online version was made available through Google forms, facilitating a wider reach. Only 157 responses were obtained, 31 were from printed surveys. While the total of 157 responses might initially appear limited, understanding the context and constraints of this study is crucial, the respondents included in this study have all interacted with digital public services, significantly enhancing the relevance of the data collected.

Despite the study’s aim to examine the future implementation of digital systems, engaging citizens who may not yet fully appreciate or understand these technologies posed a challenge. The non-probabilistic sampling method, while not the most

robust was considered necessary given these circumstances and is acknowledged as a limitation of the study [52].

A survey was conducted among users of public services in Morocco. Most respondents (74.4%) were between 18 and 30 years old, with a further 23.1% aged 31 to 45. Educational levels were high, with 68.8% holding university degrees and 34.6% with advanced diplomas, reflecting a well-educated demographic engaging with public services. The analysis proceeded with the entire dataset subsequent to exclude any incomplete responses.

Although the sample size of 157 responses may be considered modest for specific statistical analysis, is it adequate for exploratory data analysis, and deriving significant conclusions, especially in research concerning technology adoption and citizen engagement in the public sector.

### 3.2. Measures

Pilot research was conducted, to ensure the validity and reliability of the scales used to measure the constructs in this study. Participants rated their level of agreement with each topic on a 4point Likert style scale, ranging from 1 (strongly disagree) to 4 (strongly agree). To assess chatbots, a 6-item scale was adapted to measure various aspects including (user engagement, openness, adaptability, resolution efficiency, clarity of communication, and accuracy)(details provided in the Appendix) .

Similarly, scales were also modified to measure user satisfaction with chatbots experience, the perceived level of support provided by chatbots.

To conclude this section, Figure 2 summarizes our conceptual framework.

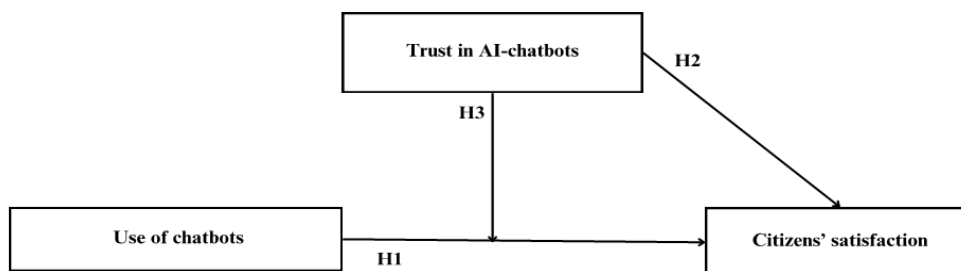


Figure 2. Research model [49]

## 4. Data Analysis and Results

Table 2. Hypotheses testing

			Path coefficients	P-value	t-value	Support
H1: Use of chatbots	→	citizens' satisfaction	0.540	0,000	5.618	Yes
H2: Trust in AI-chatbots	→	citizens' satisfaction	0.193	0,033	2.128	Yes
H3: Trust in AI- Chatbots x Chatbots	→	Citizens' satisfaction	0.142	0,020	2.324	Yes

In this section, the research hypotheses were analyzed by testing the path coefficient analysis. (Table 2) presents the results of the research model Partial Least Squares Structural Equation Modeling (PLS-SEM) framework.

The causal link between chatbots and citizens satisfaction: With a p-value of 0.000 and a path coefficient of 0.540, chatbots have a very substantial positive effect. At the 95% confidence level, the significance of this link is confirmed by the T-statistic of 5.618, which surpasses the crucial threshold of 1.96.

The connection between trust in AI-chatbots and citizens satisfaction: The coefficient for chatbots is 0.193 and the p-value is 0.033, indicating a positive effect that is less pronounced than the former but still significant. At the 95% confidence level, it is statistically significant (T-statistic = 2.128).

The impact of chatbots on satisfaction and the trust in chatbots interact with one other: With a p-value of 0.020 and a path coefficient of 0.142, chatbots demonstrate notable moderating impact. This interaction has a T-statistic of 2.324. The importance of chatbot interactions and user trust in improving satisfaction is highlighted by these results.

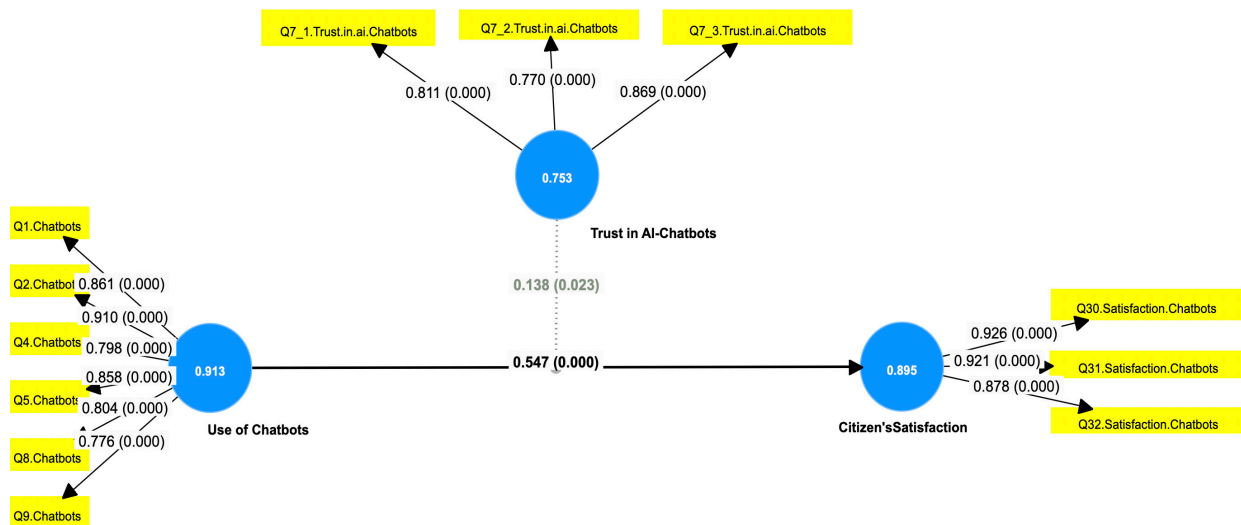


Figure 3. Final conceptual model

For the construct related to the use of chatbots, (Figure 3, Table 3) indicators Q1, Q2, Q4, Q5, Q8, and Q9 have loadings ranging from 0.776 to 0.910, suggesting a strong relationship with the construct. The Cronbach's alpha is 0.913, indicating excellent internal consistency among these indicators.

The composite reliability is 0.933, and the average variance extracted (AVE) is 0.699, both of which are excellent, demonstrating that the construct is well-defined and the indicators are reliably measuring it.

Table 3. Standardized loadings, reliability, and validity

Constructs	Type of measure	Indicators	Loadings	Cronbach's alpha	Composite reliability	AVE
Use of chatbots	Reflective	Q1	0.861	0,913	0.933	0.699
		Q2	0.910			
		Q4	0.798			
		Q5	0.858			
		Q8	0.804			
		Q9	0.776			
Citizens' satisfaction	Reflective	Q30	0.926	0,893	0.933	0.823
		Q31	0.921			
		Q32	0.878			
Trust in AI- Chatbots	Reflective	Q7-1	0.811	0,753	0.858	0.699
		Q7-2	0.770			
		Q7-3	0.869			

In terms of citizen's satisfaction, measured by Q30, Q31, and Q32, the loadings are between 0.878 and 0.926, indicating strong relationships with the construct.

The Cronbach's alpha of 0.893 and composite reliability of 0.933 both suggest excellent internal consistency, while the AVE of 0.823 shows very good construct validity.

Lastly, the trust in AI-chatbots construct, measured by Q7-1, Q7-2, and Q7-3, has loadings from 0.770 to 0.869. The Cronbach's alpha here is 0.753, and the composite reliability is 0.858, indicating good internal consistency. The AVE of 0.699 also suggests good construct validity. Overall, the indicators for each construct show strong relationships with their respective constructs, indicating the questions are well-chosen. The high values of Cronbach's alpha, composite reliability, and AVE across all constructs indicate that the measurement model is robust, with the constructs being well-defined and effectively measured.

## 5. Discussion and Contributions

Based on the analysis, the general conclusion regarding the tested hypotheses is as follows:

The empirical examination of the conceptual model using Smart-PLS has substantiated a significant and positive relationship between chatbot usage and citizen satisfaction (H1), affirming that as citizens engage more frequently with chatbots, their satisfaction levels rise. This direct correlation is a vital indicator of the effectiveness of chatbots as a user engagement tool.

Further analysis confirmed the positive influence of trust in AI-chatbots on user satisfaction (H2), suggesting that trust is a critical component in how users perceive and react to their interactions with chatbots. While the impact of trust was found to be positive, it was noted to be less strong compared to the direct effect of chatbot usage on satisfaction, indicating that while trust is important, the practical performance of chatbots plays a more significant role in determining user satisfaction.

The moderating role of trust in chatbots was also supported (H3), demonstrating that high levels of trust in chatbots intensify the positive effects of chatbot usage on user satisfaction. This underscores the importance of developing chatbot technologies that are not only functional but also trustworthy, as trust appears to magnify the benefits of chatbot interactions.

The statistical robustness of the PLS-SEM model was validated through a series of reliability and validity tests. Internal reliability was confirmed with high Cronbach's alpha and composite reliability scores for all constructs. The average variance extracted (AVE) scores surpassed the acceptable constructs. The model's fit was demonstrated by SRMR and NFI values that indicate a strong representation of the observed data. The factorial loadings and the Fornell-Larcker criterion, along with the HTMT ratio, provided evidence for convergent and discriminant validity, respectively,

ensuring that the constructs were well-defined and distinct.

In conclusion, the positive association between chatbot utilization and user satisfaction, compounded by the reinforcing effect of trust, supports the notion that both the functional use of chatbots and the trust users place in them are fundamental to their satisfaction. These findings advocate for the emphasis on trust-building features in chatbot design and deployment to enhance user experiences and satisfaction. The methodological rigor confirmed by the model's robustness suggests that these insights are reliable and can be instrumental in guiding future research and practical applications in the field of AI-driven user engagement.

This study makes critical contributions to the discourse on digital transformation within the public sector in Morocco, specifically through the lens of chatbot technology integration. Our investigation reveals several key insights and implications for policymakers, technology designers, and public administrators.

First, the study highlights a significant gap in the implementation of chatbots across Moroccan public entities, with particular attention to the intertwined issues of trust and citizen satisfaction. By identifying these gaps, the research underscores the urgent need for strategic approaches to enhance the deployment and acceptance of chatbots in public services.

Second, the study presents compelling evidence that supports the hypothesis that the adoption of chatbots positively influences citizen satisfaction. Through rigorous analysis, the study demonstrates how chatbots, when effectively implemented, can lead to improved service delivery, reduced wait times, and a more personalized interaction experience for citizens. This finding is pivotal for public organizations considering or currently deploying chatbot technologies.

Furthermore, the research showcases various initiatives and projects within Morocco that have successfully integrated chatbot technology to streamline services and elevate user experiences. These case studies serve as valuable benchmarks for other public entities aiming to harness the benefits of chatbots, providing practical insights into the strategies that have led to successful outcomes.

In addition, the study delves into the critical role of trust in the successful adoption and effectiveness of AI-powered chatbots. The findings of the study explore the factors that contribute to building and maintaining trust in chatbot interactions, including transparency, reliability, and user-centric design. This exploration is crucial for understanding how public entities can design and implement chatbot solutions that meet the expectations and needs of Moroccan citizens.



Lastly, the study emphasizes the paramount importance of establishing robust data protection practices and security measures to foster the ethical use of chatbot technology. As chatbots process and store a vast amount of personal information, ensuring the privacy and security of citizen data is essential. The research calls for comprehensive policies and frameworks that safeguard user data, thereby strengthening trust and facilitating the wider acceptance of chatbots in public service.

## 6. Conclusion and Implications

In summary, the integration of chatbots into digital transformation initiatives in nations as Morocco, signifies a substantial advancement toward increasing citizen satisfaction.

Ultimately, the study adds to the growing body of literature on e-government and automated services, by demonstrating the impact of trust as a moderator, this implies that trust acts as a moderator in the technology acceptance paradigm.

From the perspectives of the practical implications, this study highlights the potential for chatbots to substantially increase citizen satisfaction, through enhanced accessibility to public services.

In addition, the capacity of chatbots to give personalized information improves the service experience by adapting to the specific requirement and preferences of each user.

Furthermore, the use of chatbots gives a strategic opportunity for policymakers to redefine the delivery of public services. As chatbots have the potential to enormously influence public sector operations by enhancing accessibility of services. In addition, the communication process is simplified by the interactive characteristics chatbots, which facilitate a more captivating and efficient exchange of information.

Moving forward, beyond the linguistic diversity, the study examines the delicate problem of public trust in AI chatbots in Morocco emphasizing numerous significant obstacles. Privacy and data security become the most important issues and citizens are hesitant to share personal information, this concern highlights the importance of implementing strong privacy protections and open data management procedure in order to establish trust in chatbots technologies.

All things considered, public sector organizations can benefit greatly from including trust into their chatbot strategy in light of these findings, by concentrating on these aspects, public entities can substantially increase citizen satisfaction.

There are various limitations to the study that could provide useful information for future studies.

First the specificity of the study's focus on the public sector of Morocco may restrict the generalizability of its findings to other cultural or administrative contents, where, expectations and dynamics of trust among citizens may vary considerably.

Second, an additional significant constraint emerges from the difficulty in quantitatively measuring concepts like trust, satisfaction and the quality of interaction with chatbots, because of survey methodology in their very nature, are susceptible to subject and may introduce data discrepancies.

Hence, future research could explore additional variables that might influence the relationship between chatbots and citizen satisfaction, future studies could also establish many components that comprise trust, such as trust in the technology (chatbots), trust in the government entities that is responsible for deploying the chatbot, and the trust in the precision of information that is supplied.

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Appendix

Appendix A: Survey Items

Dimension	Attribute	Statement
Use of chatbots (Mehr, H., Ash, H., & Fellow, D. (2017).	<ol style="list-style-type: none"> <li>1. User engagement</li> <li>2. Accuracy</li> <li>3. Resolution efficiency</li> <li>4. Adaptability</li> <li>5. Openness</li> <li>6. Clarity of communication</li> </ol>	<ol style="list-style-type: none"> <li>1. How engaging do you find the chatbot interaction?</li> <li>2. What is the precision with which the chatbot retains and applies user data during each interaction</li> <li>3. How quickly does the chatbot respond to questions and concerns</li> <li>4. How adaptive is the chatbot to various types of inquiries?</li> <li>5. How would you rate the speed with which the chatbot resolved your inquiry?</li> <li>6. How clear were the chatbot's responses to your inquiries</li> </ol>
Citizens' satisfaction (Mehr, H., Ash, H., & Fellow, D. (2017) Davis, 1989)	<ol style="list-style-type: none"> <li>1. Ease of use</li> <li>2. Responsiveness</li> <li>3. Personalization</li> </ol>	<ol style="list-style-type: none"> <li>1. How would you rate the chatbot's ability to respond effectively based on your specific needs and past interactions?</li> <li>2. How would you assess the chatbot's responsiveness in terms of the speed and relevance of responses to your inquiries?</li> <li>3. Did the chatbot's responses demonstrate a degree of customization in accordance with your personal preferences?</li> </ol>
Trust in AI-chatbots (Gefen & al. (2003, Davis 1989)	<ol style="list-style-type: none"> <li>1. Data privacy</li> <li>2. Security</li> <li>3. Anonymity</li> </ol>	<ol style="list-style-type: none"> <li>1. Knowing that chatbots respect my data privacy makes me more willing to use them, thereby increasing my satisfaction.</li> <li>2. The assurance of security measures in chatbots increases my trust and, consequently, my satisfaction with their usage.</li> <li>3. My trust in chatbots enhances my satisfaction with their use by allowing me to remain anonymous during our interactions</li> </ol>