

# Navigating the integration of ChatGPT in UAE's government sector: challenges and opportunities

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Ghada Nabil Goher  
*Industry Expert, Dubai, United Arab Emirates*

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## Abstract

**Purpose** – This research examines how responsible deployment of ChatGPT in the UAE's government sector, guided by New Public Management principles, can enhance customer journeys by integrating services across government bodies. Through semi-structured interviews with UAE government officers, the study investigates this approach's benefits, challenges, and applications for achieving efficient and integrated public service delivery.

**Design/methodology/approach** – This research adopts a qualitative approach, purposive sampling strategy, and semi-structured interviews to explore the subjective viewpoints of 20 high-level UAE government authorities. The thematic analysis uncovers ChatGPT's benefits, challenges, and applications, aligning with New Public Management principles.

**Findings** – Thematic analysis reveals four themes: Benefits and Applications of ChatGPT, Challenges, Strategies to Overcome Challenges, and Steps for Customer Journey Enhancement through ChatGPT.

**Research limitations/implications** – The analysis is based on participant responses provided during the interviews, which may be subject to biases or incomplete information. Secondly, the study focuses solely on the provided applications and participant responses, limiting the generalizability of the conclusions to other contexts.

**Practical implications** – The implementation of ChatGPT in the government sector has practical implications for transforming its operations and enhancing communication, efficiency, decision-making, and service offerings: citizen engagement, streamlined processes, and informed governance.

**Originality/value** – This study uniquely examines ChatGPT's role in government, offering insights into communication, efficiency, decision-making, and service offerings. Identifying hurdles enriches understanding of ChatGPT's practical integration in government.

**Keywords** ChatGPT, Government sector, Public service delivery, Benefits of ChatGPT, Applications of ChatGPT, Limitations of ChatGPT, New public management

**Paper type** Research paper

## 1. Introduction

Integrating artificial intelligence (AI) and tools like ChatGPT in government operations presents a multifaceted landscape fraught with challenges. Governments have a lot of sensitive data, which requires them to be careful when implementing these technologies, considering the ethical implications (Nah, Zheng, Cai, Keng, & Chen, 2023). Despite the increasing awareness of the benefits of using these technologies, several government organizations still suffer from a shortage of professionals with proficient AI capabilities required to effectively use these technologies (Onwuka, Okeke, Melugbo, & Jemisenia, 2023). The underlying technology of ChatGPT, a public tool created by Open GAI, is a Generative



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Pretrained Transformer (GPT), which is categorized as Generative GAI and is expected to encounter more growth in the coming years (Ahmad, Murugesan, & Kshetri, 2023).

Similarly, the UAE's government has developed "UAE National Strategy for Artificial Intelligence 2031" for enhancing public service delivery and achieving the country's strategic objectives. UAE is also considering using ChatGPT to improve public service efficiency. However, due to their concerns regarding compliance and governance, the UAE might face challenges related to its implementation in various government sectors.

The government sector needs to focus on digital governance due to the multiple challenges that have emerged with the increasing usage of generative AI models, such as data-related challenges, managerial issues, lack of digital skills, poor interpretation, ethical issues, socio-political and legal challenges, and financial risks (Zuiderwijk, Chen, & Salem, 2021). Moreover, Gesk and Leyer (2022) outline that little attention has been devoted to exploring the implications of AI tools in the government sector, and this gap is significant to explore since the knowledge acquired in the private sector is not entirely transferable to the government sector due to how citizens perceive services. In this regard, Knutsen, David Patón-Romero, Hannay, and Tanilkan (2023) have also indicated that governments cannot meet the rapid development of technologies and significantly lack the governance of AI as these new technologies are challenging the bureaucratic and traditional form of operating a government or a public entity.

Hence, it is important to understand how to overcome the issue and integrate public services to benefit the customers of the government sector. The research is guided by the New Public Management (NPM) theory, a paradigm of public administration (Colak, 2019). NPM is an interdisciplinary field of study that centres on the fundamental principles of administrative practices and encompasses management concepts such as planning, controlling, and organizing resources (Lapuente & Van de Walle, 2020).

This paper begins with a discussion of the theoretical framework of ChatGPT, exploring its applications across various public and private sectors. Following the discussion of applications, the paper elaborates on the qualitative research method adopted for the study. The findings section is represented using thematic analysis to identify patterns within the data. The paper concludes with a discussion and summary of the research.

## 2. Literature review

### 2.1 Underpinning theoretical framework

The emergence of the NPM theory directly responded to the perceived inefficiencies and inadequacies inherent in conventional public administration practices (Colak, 2019). The fundamental objective of NPM is to incorporate principles derived from the private sector, including market-oriented competition, managerial practices, and performance evaluation, into the realm of public administration (Colak, 2019). The NPM aims to enhance bureaucracies' agility and responsiveness by emphasizing efficiency, accountability, and customer orientation. Adopting a market-oriented approach can enhance efficiency in delivering public services, which can encourage agencies to prioritize achieving desired outcomes, reduce expenditures, and optimize utilizing available resources (Osborne, 2006). The implementation of NPM principles has facilitated the cultivation of an entrepreneurial orientation within public institutions, thereby promoting innovative practices and a customer-centric mindset to enhance the efficacy of meeting citizens' demands (Osborne, 2006). The NPM paradigm also posits that adopting a marketing-oriented approach to management should lead to improved cost-effectiveness. The NPM approach is predicated upon two primary principles: managerial and public focus. The current study places significant importance on citizens' perspectives in determining the operational strategies of public sector organizations within the state regarding the use and governance of ChatGPT within various public entities. The study proposes a

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comprehensive solution by exploring various steps that extend beyond conventional boundaries and can improve the customer journey.

### 2.2 Comparative analysis

Very few studies have been conducted on implementing ChatGPT or Generative AI in the public sector. For instance, [Bright et al. \(2024\)](#) conducted research in the context of the United Kingdom's (UK) public sector and found that generative AI systems are widespread among around 1,000 public sector personnel in the United Kingdom and the authors expressed positive views of the current use of the technology and its potential to enhance efficiency and reduce administrative workload greatly ([Bright et al., 2024](#)). However, the authors also found that concerns were expressed regarding missing opportunities to use AI for improving public services and the lack of clear guidelines for its implementation in work settings. Similarly, research conducted in Norway's public sector among technological staff revealed various perspectives on generative AI ([Knutsen et al., 2023](#)). Despite a high level of interest, there was a lack of technology comprehension. The authors found that people in the public sector expressed satisfaction and equal concern about associated AI-related challenges. A cross-sectional study undertaken in Nigeria investigated the elements that facilitate or impede the incorporation of ChatGPT-based models within government organizations ([Onwuka et al., 2023](#)). The authors found strong support for the integration, with favourable opinions on its ability to enhance the provision of public services. However, concerns were raised about security, employee resistance, resource needs, and usage difficulties ([Onwuka et al., 2023](#)). The policy proposals encompassed the introduction of training programmes, the creation of data protection regulations, the formulation of explicit guidelines, the execution of awareness campaigns, the gradual integration with human support, the provision of incentives, and the establishment of monitoring mechanisms ([Onwuka et al., 2023](#)). However, it also highlighted the existence of substantial ethical dilemmas, such as potential concerns around data privacy.

### 2.3 Applications, benefits, and challenges of ChatGPT

ChatGPT, a sophisticated natural language processing system, mimics human dialogues in diverse languages and styles ([Ahmad et al., 2023](#)). Its deployment offers potential benefits such as efficiency, cost savings, and enhanced accuracy, aligning with the goals of this study. However, it is important to note the nuanced challenges, including security issues and limitations. The varied impacts shown in [Table 1](#) reflect the dynamic role of ChatGPT within the context of innovative public management and effective service delivery.

Researchers ([Bran et al., 2023](#); [Goldstein et al., 2023](#); [Meskó & Topol, 2023](#)) have focused on the use of generative AI tools, such as ChatGPT, in the government sector, but they significantly expressed concerns regarding the governance of these tools in the government sector. Researchers ([Zuiderwijk et al., 2021](#); [Geske & Leyer, 2022](#)) also outline the importance of ensuring governance of the use of ChatGPT or other generative AI tools, considering that the sector is a high-risk sector.

[Onwuka et al. \(2023\)](#) outlined various challenges linked with implementing ChatGPT in the government, which include security concerns, high resistance to change showcased by government employees, lack of resources to integrate ChatGPT in government operations, poor technical support, lack of training, lack of trust, and dependency on older technologies. Similarly, [Huang and Huang \(2023\)](#) also outlined that using ChatGPT in Government includes ethical challenges related to data privacy, security, limited public trust, and limited perceived transparency. [Nah et al. \(2023\)](#) build upon the challenges faced by the government regarding data security and privacy by stating that there is a lack of human control over the behaviour showcased by ChatGPT. These challenges impede the implementation and integration of AI in government operations, as many researchers ([Nah et al., 2023](#); [Guo, Chen,](#)

# DTS

Authors	Sector	Benefits of ChatGPT	Concerns related to ChatGPT	Applications of ChatGPT
Li, Dada, Puladi, Kleesiek, and Egger (2024)	Healthcare	Easy interface to use Conversational Provides feedback and justifications to questions asked Improved efficiency	Only text-based Does not interpret images Sometimes, explanations are not related. It depends primarily on training data. Provides misleading and incorrect information at times Fabricates information Privacy concerns as it is a proprietary product	Medical Education Consultation and research Medical diagnosis Medical decision-making Clinical documentation
Javaid, Haleem, and Singh (2023)		Better workflow Effective communication Medical translation Handling large databases Full-time clinical assistance Supporting predictions Constant assistance	Falsified and incorrect information Job losses due to reduction in human involvement Ethical concerns related to medical standards and policies Privacy concerns for patients Poor comprehension and explanations Unable to handle complex queries Does not understand tone, which can make the patient experience less individualized	Educating patients Clinical studies Accessing medical information Medical Counselling Scheduling appointments Providing disease-related information to patients Developing treatment and intervention programs Acting as a digital assistant for physicians
Sok and Heng (2023)	Education	Creating learning assessment Enhancing pedagogical practice Offering virtual training Creating structure and outline Brainstorming various research ideas	Issues related to academic integrity Unfair learning assessment Falsified and incorrect information Over-dependence on the tool	Generate content Translate content Design and structure content Present summaries Creative writing on any topic
Ahmad <i>et al.</i> (2023)		Facilitates creative writing Critical analysis of academic writing Provides personalized support Language translation Interactive and Adaptive learning	Limited academic integrity Poor human interaction Limited understanding of concepts Poor quality data at times and irrelevant information Limited ability to personalize information	Improved research and inquiry capabilities

**Table 1.** Summary of benefits, challenges, and applications of ChatGPT in public and private sectors

(continued)

Authors	Sector	Benefits of ChatGPT	Concerns related to ChatGPT	Applications of ChatGPT
Paul, Ueno, and Dennis (2023)	Marketing	Enhanced customer engagement Improved shopping and personalization Insights into customer behaviour Cost-effectiveness Content creation for marketing purposes	Concerns related to customer happiness Presence of biases Falsified information Lack of coherence and context Repetitive information Privacy and security concerns	Digital marketing Personalized communication Customer sentiment analysis
Rivas and Zhao (2023)		Providing constant assistance and support to customers Personalized recommendations Decreased costs Collection of customer feedback	Falsified and inaccurate information Generates information based on outdated data Job losses Privacy concerns Presence of biases Limited accuracy and creativity Lack of transparency for consumers	Digital marketing Content creation Automated chatbots and assistance New product development
Carvalho and Ivanov (2023)	Tourism	Better customer experience Reduced response time Increased effectiveness Improved business outcomes	Inaccurate information Inability to provide clear answers to complex questions It does not resemble the reasoning abilities of humans. Poor mathematical capabilities Biased responses Data confidentiality concerns Lack of human touch	Better marketing capabilities for tourism companies Improved operations within companies Generate content New product development Finance and business management Better decision-making Travel planning for tourists
Gursoy, Li, and Song (2023)		Improved customer experience Better decision-making support Creating and delivering personalized experiences Generated content	Inaccurate information and data Lack of human touch Biased data Privacy and security concerns	Contextual awareness Delivering experiences for tourists Better content delivery for tourism companies and the hospitality sector

(continued)

Table 1.

## DTS

Authors	Sector	Benefits of ChatGPT	Concerns related to ChatGPT	Applications of ChatGPT
Cardoso (2023)	Government	Improved availability of public information Better services Increased utility	Security and privacy concerns Ethical concerns Lack of AI governance	Implementation of advanced technologies Transparency and Information Access
Bran, Rughiniş, Nadoleanu, and Flaherty (2023)		Improved creativity Brining novelty in research and other applications Benefits related to social aspects High-level understanding	Moral concerns Copyright issues Degradation of human skills and creativity Incompetent Missing subjectivity Lack of AI governance	Meaningful interaction Providing useful information Easy to understand Optimistic vocabulary
Goldstein, Sastry, Musser, DiResta, Gentzel, and Sedova (2023)		Producing realistic texts Easy access to all available information Easy-to-use interface Increasing intent to use such technologies	More integration is needed Technically uncertain and poor quality of content at times Data access restrictions Privacy and security risks	Better coordination Significant changes in operations
Meskó and Topol (2023)		Highly scalable and complex Broad applicability Real-time information	Regulatory challenges Poor privacy of data Providing incorrect information Data ownership issues High bias Requires constant monitoring Poor transparency Need for better governance	Better documentation Responsive chatbot and provides answers to users' concerns Provide various options Generate notes Text analysis Analyse and interpret results

Table 1.

Wu, & Wang, 2023; Huang & Huang, 2023) do outline that the scope of integration is high and beneficial for increasing the efficiency and customer service in the sector. Hence, to streamline the customer journey by creating a higher level of integration across various public services with the use of ChatGPT and also ensure strong governance of the use of ChatGPT, this research has used qualitative research methodology and its related justification and relevant sample are discussed in the following section.

### 3. Research methodology

This qualitative study used semi-structured interviews to explore stakeholders' views on ChatGPT implementation in UAE's government sector. A purposive sampling strategy was utilized to select participants who have relevant knowledge and experience in the government sector and are familiar with or have been using ChatGPT. Participant selection criteria was that participants should have 2 years' experience using ChatGPT or any Generative AI and more than 5 years of technical experience in IT, specifically in the public sector. Current or former government officials/employees, IT employees, legal professionals,

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or policymakers who have been directly involved in the implementation or use of ChatGPT in UAE's public sector were a part of the study.

For the data collection, an interview guide (presented in [Appendix 1](#)) was developed that consisted of open-ended questions. The participants were contacted through e-mail with information about the research and a participant consent form. Once participants approved conducting the study, a schedule and location were decided convenient to the participant. Thematic analysis was employed to examine the efficacy of ChatGPT in the UAE's government sector based on the qualitative data gathered through semi-structured interviews.

Once the thematic analysis was done, inter-rater reliability was measured to ensure the reliability of the findings ([Shan & Wang, 2017](#)). One other fellow qualitative researcher performed the coding process along with the researcher herself. Once both raters finished the coding process, the similarity between their codes was marked, their agreement rate was measured, and Cohen's kappa was calculated accordingly. A final of 18 codes were evaluated. Cohen's kappa indicator was used to measure the reliability of the findings, which came out to be 0.63, indicating a substantial agreement between the two raters ([Shan & Wang, 2017](#)). This value can be considered acceptable in the current study considering the subjective opinions it has collected from different participants in the study. Also, participants were asked qualifying questions, such as whether they knew about ChatGPT and its usage and if they had been using ChatGPT at their workplace (government body). Participants who mentioned yes to the above qualifying questions were included in the data collection process. Information regarding participants, their designation, and experience is presented in [Appendix 2](#).

#### 4. Findings and analysis

Thematic analysis was conducted to extract patterns and themes from the data collected through participant interviews and its process is represented in [Appendix 3](#). These findings are intricately aligned with the study's problem statement, which seeks to explore how ChatGPT can effectively enhance government services in alignment with NPM principles.

##### *4.1 Theme 1: benefits and applications of ChatGPT in the government sector*

This theme encapsulates the affirmative aspects of integrating ChatGPT into governmental operations:

*4.1.1 Sub-theme 1: improved communication.* ChatGPT can potentially improve communication and engagement within the government sector based on ChatGPT's capacity to replicate human-like responses and comprehend natural language, which can enhance professional and productive communication among government authorities, staff, and the general public. ChatGPT has the potential to facilitate efficient communication processes for government agencies, leading to cost and time savings, as well as improved transparency and accessibility, as indicated by P5.

P5: ChatGPT can help with onboarding and training by giving new employees information about company policies and procedures, answering frequently asked questions, and advising on training materials.

Participants underscore the potential for ChatGPT to provide accurate and timely responses, leading to increased transparency and enhanced stakeholder satisfaction.

*4.1.2 Sub-theme 2: enhanced decision-making capability.* With ChatGPT, governments can improve their decision-making capability as it allows them to conduct a comprehensive analysis of intricate data, examine a wide range of perspectives, and offer informed and insightful observations. The efficient synthesis of information enables users in the

government sector to make more informed and rational decisions across diverse domains, as indicated in the following response.

P13: ChatGPT has transformed our decision-making processes as a public sector professional . . . ChatGPT helps us explore possibilities, consider other views, and make informed judgments.

With its capability, ChatGPT can provide policymakers with timely insights gained by evaluating various forms of data, allowing them to consider alternative views and make decisions.

*4.1.3 Sub-theme 3: citizen engagement and support.* ChatGPT can significantly benefit the public sector by facilitating improved citizen engagement and support, as indicated in the response below.

P3: In our city's transportation entity, we implemented ChatGPT on our website to handle frequently asked questions regarding bus schedules, route modifications, and ticket costs for a specific period. It could effectively manage numerous daily inquiries, reducing the workload on our call centre and promptly delivering accurate information to residents.

Another participant, P6, provided a more general response, as mentioned below.

P6: ChatGPT can provide citizens with quick and accurate responses to their inquiries about government services, policies, and programs. This can make people happier and more interested in their government.

The advanced capabilities of ChatGPT's language processing enable smooth interactions with individuals, allowing for the resolution of inquiries, dissemination of information, and provision of personalized support.

*4.1.4 Sub-theme 4: task automation for efficiency.* ChatGPT can automate various government processes, like translating texts into any language they want and improve daily tasks and operations, as indicated by responses below.

P8: ChatGPT can automatically translate government documents or communications into different languages.

P16: ChatGPT can be used to automatically answer people's questions related to available government services, policies, or any events 24\*7, which will. . .increase the efficiency of operations related to providing public services.

Governments worldwide can save significant costs and labour in these processes as ChatGPT can do it automatically without a considerable need for human involvement. It can translate texts to any language with high precision, showing the capacity to automate tasks a.

*4.1.5 Sub-theme 5: elevating customer service quality.* ChatGPT's capacity to improve customer service by providing 24/7 support and customized aid also contributes to more effective and citizen-oriented governance. ChatGPT can manage numerous customer inquiries concurrently, expanding its support capacities efficiently. The system can effectively handle large customer interactions, ensuring prompt responses and minimizing wait times.

P10: ChatGPT can provide round-the-clock support to citizens, allowing them to get answers to their questions and access information anytime without waiting for business hours or speaking with a live agent.

P5: As a government agency, we handle permits and licenses. . . Traditionally, what happens is that citizens have to navigate through complex application processes, which creates much confusion for them. When they used ChatGPT, they saw that a virtual assistant. . . answers their queries immediately, and they do not have to experience "CALL HOLDS" like they did when they initially connected to customer services.



Overall, with the ongoing advancement of technology, a significant opportunity exists for the ChatGPT and analogous models to be further developed and incorporated into governmental operations. This can potentially enhance efficiency, transparency, and citizens' overall satisfaction.

#### *4.2 Theme 2: challenges of using ChatGPT in the government sector*

Integrating ChatGPT, a robust language model, within the government sector presents various challenges. The present theme aims to identify challenges governments must overcome when incorporating ChatGPT, emphasizing the significance of strategizing, openness, and cooperation to guarantee seamless assimilation while preserving the confidence and welfare of the citizens.

*4.2.1 Sub-theme 1: privacy and security challenges.* Implementing ChatGPT within the governmental domain gives rise to apprehensions regarding privacy and security. The potential of ChatGPT to produce language that closely resembles that of humans presents the prospect of its application in deceitful or manipulative practices. Using ChatGPT in customer service or communication domains can be particularly problematic.

P2: ChatGPT's ability to generate human-like language could potentially be used to deceive or manipulate people. This raises concerns about privacy and informed consent, particularly when using ChatGPT in customer service or communication areas.

The utilization of ChatGPT within the public sector entails both advantages and disadvantages, as its capacity to improve customer service is counterbalanced by concerns regarding privacy and security. Although the language capabilities of AI systems may resemble human-like proficiency, it is crucial to address the concerns related to data breaches and unauthorized access by implementing a strong privacy strategy and obtaining informed consent.

*4.2.2 Sub-theme 2: data-related challenges.* The utilization of ChatGPT in the public sector has encountered difficulties, specifically concerning data-related issues. Maintaining data privacy, security, and quality is important in public service domains. The subject matter of this theme delves into the intricate challenges governmental entities encounter as they endeavour to incorporate AI language models such as ChatGPT into their operations to improve service provision and foster public participation.

P4: One of the challenges we face when implementing ChatGPT in the public sector is the management of unstructured and heterogeneous data sources. . . Integrating and processing diverse data can be complex, potentially resulting in errors and inconsistencies in the responses of the AI model.

Another participant has a different viewpoint, which is more towards data that can be biased.

P3: So, we know that ChatGPT is trained on various data sets. So, suppose we feed it with old, long-term data. In that case, it can potentially generate content that can contain biased and prejudiced content, which can hurt the sentiments of citizens and raise concerns about data fairness.

Although ChatGPT holds significant benefits for the public sector, it is crucial to approach data-related concerns cautiously. To foster trust and optimize the advantages of AI-driven solutions, government agencies must prioritise preserving data accuracy.

*4.2.3 Sub-theme 3: ethical challenges.* The implementation of ChatGPT within the governmental domain elicits ethical implications. The utilization of ChatGPT for task automation is deemed significant; however, it is imperative to uphold adequate human supervision to avert inaccuracies and ensure ethical decision-making. It is essential to establish unambiguous accountability and responsibility protocols for the decisions made by ChatGPT.

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P9: Governments must ensure clear lines of accountability and responsibility for decisions made by ChatGPT. Ensuring that ChatGPT is used ethically and responsibly in the government sector is important.

P18: We have many regulations regarding monitoring and implementing AI, but many countries have called out these tools due to ethical concerns as, to my knowledge, they are banned in a few countries.

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Governmental entities must incorporate ethical standards and principles into the development and implementation of ChatGPT to prevent the dissemination of prejudiced or detrimental content and avoid discrimination.

*4.2.4 Sub-theme 4: lack of governance.* Using language models like GPT in the government sector has introduced a range of potential advantages and obstacles. An issue of significant importance pertains to the inadequate oversight regarding utilizing ChatGPT. Without robust regulations, there is potential misuse or the manifestation of biased responses, raising concerns regarding accountability and transparency. One of the participants in the legal field, P4, mentions that:

P4: However, in the absence of proper governance, there can be an instance where it provides a user with inaccurate legal advice. If the advisor uses it, it could result in legal repercussions, and this will happen because these language models are not regulated and governed properly as they should be.

The lack of governance about the deployment of ChatGPT in the government sector raises significant concerns. Instances of inaccurate guidance and breaches of data privacy serve to highlight the urgent necessity for the implementation of an effective regulatory strategy.

### *4.3 Theme 3: strategies to overcome challenges*

It is important to overcome these challenges of using ChatGPT in the government sector to ensure that the sector can use it effectively to increase efficiency and productivity.

*4.3.1 Sub-theme 1: data encryption and consent.* The use of ChatGPT has given rise to apprehensions regarding security-related concerns. This sub-theme examines the essential data encryption strategies and obtaining user consent to effectively address these challenges and ensure privacy and security in the government sector, as indicated by participants.

P2: data encryption is crucial in ensuring the security of sensitive information shared on ChatGPT. . . one important measure is to encrypt messages and user data, limiting potential threats.

P14: Before the data is collected, users should be clearly shown what type of data will be collected and how it will be used and only once they provide their consent will the data be collected.

Data encryption and consent are essential to successfully handle security problems in the government sector's use of ChatGPT. Trust can be bolstered, data privacy can be improved, and a safe space can be created for interactions with AI-powered systems if government agencies adopt and adhere to strong consent processes.

*4.3.2 Sub-theme 2: continuous model improvement.* Another effective strategy or measure that overcame the challenges of using ChatGPT was continuous model improvement based on participants' responses.

P1: When they put in queries, they can include some questions related to the government and that data is used for training by ChatGPT. However, if we implement continuous model improvement as a strategy, what will happen is that it will learn to avoid sensitive topics and provide more accurate responses. Now, employees can confidently seek help without compromising their data.

P7: In a pilot use of ChatGPT for customer service, I think it initially struggled with understanding complex customer queries, leading to inconsistent responses. When we take feedback from them about their experience and what they think can be improved further, we can constantly improve the current, which can have positive outcomes.

Adopting a continuous model improvement approach to implement ChatGPT in the public sector can efficiently mitigate data-related and other associated concerns. Through iterative refinement, the model exhibits enhanced reliability, heightened security, and increased proficiency in managing intricate user interactions. This measure guarantees a heightened level of safety and increased value in the utilization of AI tools by the general public.

*4.3.3 Sub-theme 3: ethical compliance and governance.* During discussions with participants and in the literature, it was found that ethical concerns are among the most crucial concerns to be addressed regarding using ChatGPT in the government sector. Based on an analysis of participant responses, it was found that ethical governance is an effective strategy to overcome such concerns.

P12: I can assure you that they can ensure the implementation of ethical governance. This will allow them to incorporate stringent data security procedures and frequent audits to reduce these dangers and keep people's faith in government AI projects intact.

P19: I think in terms of governance, we need to periodically monitor the AI tool's responses to the users to evaluate its quality and correctness.

The utilization of ChatGPT within the government domain presents significant prospects for enhanced decision-making and the provision of public services. Nevertheless, implementing AI is accompanied by various challenges, and ethical governance emerges as a crucial factor in effectively addressing these issues. The responsible utilization of ChatGPT and the development of a reliable governance framework can be achieved by implementing well-defined ethical principles, fostering transparency, and giving utmost importance to safeguarding data privacy.

*4.3.4 Sub-theme 4: collaborative governance.* Based on participant responses, one other measure, collaborative governance, was identified as an important strategy that can allow the government sector to overcome the challenges of using ChatGPT. Collaborative governance, which involves the active involvement of various stakeholders in the decision-making process, exhibits potential as a viable approach to tackle the obstacles associated with implementing ChatGPT technology within the government sector.

P13: ... a government agency can ask the public with their consent to provide feedback and information, which they can use to train ChatGPT for public service queries. By involving diverse stakeholders, the system will be fine-tuned to provide equitable responses and address potential biases in the technology.

P14: We implemented a pilot in one of the departments in my organisation. The goal was to ensure that we were getting feedback from the stakeholders about the tool's functionality and that we collaboratively fine-tuned the tool's implementation.

Collaborative governance presents a robust strategy for effectively tackling the challenges of implementing ChatGPT in the governmental domain. By harnessing the collective expertise of individuals and actively engaging citizens, it is possible to reduce potential biases, enhance the satisfaction of users' needs, and uphold responsible practices in the field of AI.

#### *4.4 Theme 4: steps to enhance customer journey through the use of ChatGPT in the government sector*

This theme explains a few steps for improving the customer journey using ChatGPT in the government sector. These steps were identified based on different responses provided by participants.

### Step 1: Identify Use Cases and Goals

During this phase, government agencies must ascertain distinct use cases and goals/objectives for implementing ChatGPT technology. This entails comprehending the significant requirements of customers and the potential of AI-driven chat systems to tackle these difficulties effectively. In this regard, participant P11 indicates that:

P11: . . . to establish a platform that offers citizens a seamless and expedient means of obtaining real-time responses to their inquiries.

P19: We need to work and anticipate user requirements and train the model to respond to these specific queries that users usually have.

This indicates that it is very important for government sector agencies to set a goal that will benefit the customers and contribute to positive organizational outcomes.

### Step 2: Implement Strategic Planning

In this step, the government sector can engage in strategic planning, which entails the development of a comprehensive plan for integrating ChatGPT within the government sector. This step involves considering various factors such as budgetary constraints, availability of resources, training requirements, and compatibility with pre-existing systems. This step was developed based on an example given by one of the participants.

P10: A well-thought-out plan is crucial for successfully integrating ChatGPT into various government websites and platforms.

P15: An effective large-scale, suitable plan should be developed outlining resources needed, workflows, and other aspects, ensuring that it is also scalable and possible to implement.

Once the objectives or goals have been set (Step 1), the government sector agencies can implement strategic planning to improve their productivity and performance and help gain global competitive benefit.

### Step 3: Transparent AI Design

The government sector can create a language model trained based on customer requests and multiple pilot runs in this step. The government sector should ensure that it develops a transparent AI design, which can allow the customers to put more trust in the AI capability of the government sector. P1 has a similar thought in this, as indicated,

P1: In order to foster trust among citizens, it is imperative that we prioritise transparency regarding the inner workings of ChatGPT and the specific data that is collected throughout interactions.

P17: The functioning of the AI tool should be such that the trust among the government entities and users is strengthened. There should be clarity on the source, accuracy, and credibility of information provided.

With transparent AI design, the government sector will experience an increase in customer trust and satisfaction, which can contribute significantly to the efforts to improve the customer journey.

### Step 4: Develop a Comprehensive Governance Framework

In this step, the government needs to establish a governance framework to regulate the use of ChatGPT and ensure ethical and responsible deployment. This includes guidelines on data handling, accountability, and continuous monitoring. Participant P12 elaborates more on this:

P12: According to me, a governance framework plays a crucial role in preventing the misuse of AI and ensuring compliance with data protection laws. .Regular audits and risk assessments play a crucial role in our organisation as they allow us to effectively identify any potential issues and consistently enhance the performance and security of our system.

P16: A robust monitoring strategy should be implemented, and we need to know A to Z information, processes, and output.

After building a transparent generative AI model like ChatGPT, the government sector needs to develop a comprehensive governance framework to regulate the use of the model while considering various concerns, such as ethical, security, and data-related ones discussed before.

Step 5: Continuous Improvement

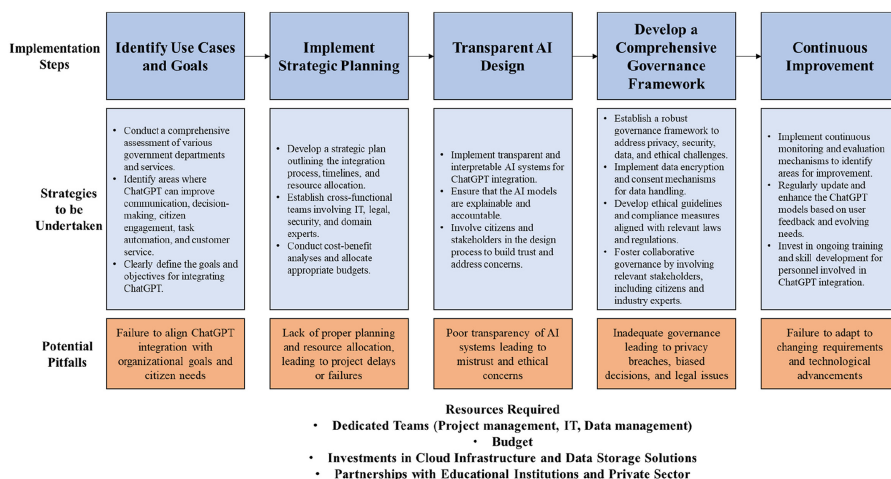
Lastly, the government sector has to engage in continuous improvement as a significant aspect of the customer journey. Government agencies in the sector must collect feedback from customers and other stakeholders primarily and monitor the performance of ChatGPT to identify areas of improvement and implement necessary changes.

P7: By regularly updating the AI model through user interactions and incorporating new data, we can significantly improve the quality of responses and ensure that the system remains aligned with the evolving needs of citizens.

P20: The model should be trained regularly using updated information about changing policies, regulations, and new trends.

The analysis demonstrates a clear and sequential approach for harnessing ChatGPT’s potential to enhance the government sector’s customer journey. Government agencies can establish a purpose-driven integration by identifying relevant use cases and aligning them with specific goals.

Based on the above, a detailed roadmap is developed and presented in Figure 1 below.



Source(s): Author’s own

Figure 1. Implementation framework

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## 5. Discussion

This study's comprehensive analysis of the implications of integrating ChatGPT within the UAE government sector reveals profound practical and theoretical insights. The study specifically examines its benefits, applications, and attendant challenges. The ChatGPT, an advanced language model developed by OpenAI, can emulate human-like responses and exhibit a nuanced comprehension of authentic language within contextual and grammatical frameworks. Within the UAE context, the implications of integrating ChatGPT into the government sector reverberate with profound uniqueness and practical potency. The UAE, renowned for its unwavering commitment to technological advancement, transparency, and citizen engagement, forms a backdrop where the strategic assimilation of ChatGPT resonates harmoniously with national aspirations. The model's ability to facilitate human-like interactions and adeptly comprehend nuanced inquiries impeccably aligns with the UAE's ethos of placing its citizens at the forefront of governance initiatives. Indeed, the empirical findings are in line with prior [Carvalho and Ivanov \(2023\)](#), underlining ChatGPT's capability not just to meet but surpass citizen expectations, thus engendering a more informed, engaged, and active populace.

The study's unveiling of ChatGPT's potential as a driving force behind data-informed decision-making parallels the UAE's strategic vision of pioneering data-driven governance. This alignment finds resonance in [Gursoy \*et al.\* \(2023\)](#) research, which emphasizes the transformative power of data analytics. Additionally, the study's identification of ChatGPT's promise in reducing administrative burdens, augmenting service quality, and streamlining operations bears striking semblance to the aspirations for operational excellence and efficient service delivery that the UAE ardently pursues, which an affinity outlined by [Gesik and Leyer \(2022\)](#) and [Cardoso \(2023\)](#). Beyond its practical implications, this study's significance extends into the theoretical realm, where its harmonization with the principles of New Public Management (NPM) theory illuminates novel avenues of exploration. This theoretical resonance is underscored by [Lapuente and Van de Walle \(2020\)](#), who delineate NPM's emphasis on efficiency, customer-centricity, and innovation attributes that resonate in ChatGPT's capabilities, as elucidated in this study. The study's recognition of decentralization, local autonomy, and customized service integration mirrors NPM's call for responsive governance and elevated service provision. This scholarly inquiry conscientiously navigates the challenges intrinsic to ChatGPT's integration, a trajectory in line with concerns outlined by [Javaid \*et al.\* \(2023\)](#). The study's forthright acknowledgement of vulnerabilities in privacy, data security, and ethical considerations serves as a beacon, illuminating the imperatives that the UAE government must adroitly address to ensure a reasonable and secure integration of ChatGPT.

## 6. Conclusion

From the literature review and data analysis findings, it was observed that implementing ChatGPT has significant benefits for the government sector. The study's theoretical implications are rooted in its alignment with the NPM theory. The effective incorporation of ChatGPT to optimize customer journeys exemplifies the relevance of NPM's principles of efficiency and customer-centricity within the public sector. Furthermore, the research further substantiates the importance of customer engagement and collaboration of stakeholders from different entities, as highlighted in [Osborne's \(2006\)](#) theoretical framework. It emphasizes customer-centricity and stakeholder collaboration. However, challenges like privacy, data accuracy, and ethical concerns must be addressed. The research provides insights for policymakers and researchers on AI implementation in public services. Practical implications include enhanced public communication, task automation, data-driven decision-making, and improved customer service. The study supports integrating ChatGPT to streamline customer journeys in public services, while emphasizing the need for robust governance.

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## 7. Limitations and future investigations

In conclusion, this study acknowledges certain limitations inherent in its methodology. The discourse and ensuing analysis are contingent upon the responses supplied by participants, a factor that introduces the possibility of inherent bias or informational gaps, potentially influencing the drawn conclusions. It is essential for future research to address these limitations by employing diverse data sources or alternative methodologies to ensure a more comprehensive understanding of the phenomena under investigation. Additionally, the reliance on participant responses underscores the need for caution in generalizing findings, prompting a call for further validation through mixed-methods approaches or data triangulation. Future researchers can conduct surveys and document analysis to cross-validate findings obtained from interviews to increase the reliability of the findings. Future researchers can also explore additional theories, such as technology adoption models and organizational change theories to understand the empirical effects of variables, such as perceived usefulness, ease of use, compatibility, and change management among others on adoption of ChatGPT in the public sector.

As a pathway for future exploration, empirical analyses focusing on the impact of ChatGPT on government operations could provide a nuanced understanding of its implications. Despite the specific applicability of our findings to the government sector, it is imperative to extend investigations into other domains or scenarios to ascertain the broader relevance of ChatGPT. Furthermore, future researchers can also collect data from lower-level employees, including technical staff to collect their understanding about operational and ground-level challenges. Finally, comparative analyses contrasting ChatGPT with other AI-driven methods or traditional techniques within the governmental context could guide future studies, providing a basis for informed decision-making and resource allocation in diverse applications.

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## Appendix

The supplementary material for this article can be found online.

## Corresponding author

Ghada Nabil Goher can be contacted at: [ghada.n.goher@gmail.com](mailto:ghada.n.goher@gmail.com)

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