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Optimize public services: explore intelligent decision-making and efficiency improvement

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March,2024

BUSINESS
SCHOOL

Department of Marketing, Strategy and Operations

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Acknowledgments

I extend my heartfelt thanks to those who have played pivotal roles in my academic journey, enriching my experience, and aiding in the successful completion of this thesis.

Foremost, my parents deserve my deepest gratitude. Their unwavering love and unwavering belief in me have been the bedrock of my life's accomplishments. Their emotional and financial support have made my dreams possible. I owe a tremendous debt of gratitude to my esteemed mentors, Dr. Carlos H. Jerónimo, and Dr. Renato Lopes da Costa. Their expertise, guidance, and mentorship have profoundly shaped my academic and research endeavours. Their dedication to my growth as a scholar has been unwavering.

My homeland has instilled in me values, determination, and courage. I take pride in my country's culture and heritage. I am grateful to Portugal for making me feel at home. The warm hospitality, rich culture, and breath-taking landscapes have enriched my life. To my girlfriend, her encouragement and support have been my rock during this journey. Her unwavering belief in my abilities and motivation were my strength. To my best friends in my home country who assisted with data collection, I am thankful for your support from afar. Your willingness to help was integral to the success of this project.

Finally, I am grateful for my own courage in deciding to study abroad. It has broadened my horizons and enriched my life with diverse experiences and personal growth.

Abstract

The research aims to evaluate the impact of Generative Pre-training Models (GPT) on public service efficiency and quality. The investigation focuses on two main hypotheses. Firstly, using the GPT model frequently and proficiently has a positive correlation with public service effectiveness. Secondly, the application of the GPT model can enhance transparency and fairness in decision-making. This study used multiple linear regression analysis. It found that frequent and skilful use of the GPT model can significantly improve the efficiency and quality of public services. The practical implications of these findings are important for public administration. They indicate that advanced AI technologies can improve public service delivery efficiently. The study's limitations include insufficient scope and depth of data. The ethical and social implications were not adequately explored. Future research should validate findings on a larger dataset. This will improve generalizability and explore the ethical and social dimensions of GPT application. Additionally, it will comprehensively assess the long-term impact on public policy and social structure.

Key words: GPT model; public service; intelligent decision-making; efficiency improvement; multiple regression; public policy

Resumo

A investigação tem por objetivo avaliar o impacto dos modelos generativos de pré-treino (GPT) na eficiência e na qualidade dos serviços públicos. A investigação centra-se em duas hipóteses principais. Em primeiro lugar, a utilização frequente e proficiente do modelo GPT tem uma correlação positiva com a eficácia do serviço público. Em segundo lugar, a aplicação do modelo GPT pode aumentar a transparência e a equidade na tomada de decisões. Este estudo utilizou a análise de regressão linear múltipla. Concluiu-se que a utilização frequente e competente do modelo CPE pode melhorar significativamente a eficiência e a qualidade dos serviços públicos. As implicações práticas destas conclusões são importantes para a administração pública. Indicam que as tecnologias avançadas de IA podem melhorar a prestação de serviços públicos de forma eficiente. As limitações do estudo incluem o âmbito e a profundidade insuficientes dos dados. As implicações éticas e sociais não foram devidamente exploradas. A investigação futura deve validar os resultados num conjunto de dados maior. Isto melhorará a generalização e explorará as dimensões éticas e sociais da aplicação dos GPT. Além disso, avaliará de forma exaustiva o impacto a longo prazo nas políticas públicas e na estrutura social.

Palavras-chave: Modelo GPT; serviço público; tomada de decisão inteligente; melhoria da eficiência; regressão múltipla; política pública

Catalogue

Chapter 1: Introduction

1.1 Research Background

In today's rapidly digitalizing world, public services face numerous challenges and opportunities, including data management, decision-making intelligence, and service process optimization (Wu, Mao, 2023). Artificial intelligence (AI) in the form of Generative Pre-training Models (GPT) has drawn interest due to its potential applications across a range of domains (Liu, Ma, Sun, et al., 2023). Researchers are starting to investigate how GPT can be used in public services, especially to increase efficiency and intelligent decision-making (Zhang, Jia, 2023). The purpose of this study is to close the knowledge gap regarding the use of GPT in public services. An interdisciplinary approach will be employed, incorporating case studies, qualitative and quantitative analyses, and a review of the literature.

This study focuses on a worldwide approach, with a particular emphasis on China, to close the knowledge gap that currently exists on the application of GPT in public services. It explores the potential of GPT technology to support intelligent decision-making, how it may be customized to improve data management procedures, and how effective it is in simplifying service delivery processes. The two main objectives of the research are to: (1) identify and analyse the precise applications of GPT in the public service sectors, especially in data processing, decision support, and service improvement; and (2) conduct an empirical assessment of GPT's influence on improving the effectiveness and calibre of public service delivery.

The research will use an interdisciplinary approach that combines case studies from different nations, qualitative and quantitative analyses, and a review of the literature to achieve these goals. To evaluate GPT's usefulness in public service domains, a thorough examination of its foundational ideas and historical applications will be conducted in the literature review. By means of qualitative examination through case studies, we shall reveal the concrete advantages of GPT in various public service contexts. The

theories and hypotheses put forward will be empirically supported using quantitative approaches, such as statistical and econometric tools. Additionally, this research will incorporate ideas from the social sciences including optimisation theory, decision theory, and public choice theory, to improve our comprehension of the consequences of GPT. This multifaceted strategy will make it easier to evaluate GPT's benefits and drawbacks in a comprehensive manner.

With a comprehensive research strategy, this study aims to address the local and global subtleties of this technological progression while providing incisive theoretical insights and practical solutions for the improvement of public services through GPT application.

1.2 research purpose and significance

Purpose of Research:

The aim of the study is to pinpoint and investigate GPT uses in public services. Its main objectives are to optimise service delivery, improve decision-making processes, and improve data management.

Test the hypotheses regarding how well GPT works to improve the efficacy and calibre of public services.

Research Significance:

Resolving inconsistencies in the co-development of social and technological

Emphasise that ChatGPT and other forms of generative AI are not just technical however also have applications in the social, political, and economic spheres.

Acknowledge the new issues like privacy, data security, and accuracy regarding data while simultaneously acknowledging the opportunities that technologies like ChatGPT have created for public governance.

It is easier to comprehend the objectives and implications of the study thanks to this arrangement, which clearly separates the purpose of the research from its larger significance.

Political public opinion and social influence:

A machine learning system that can generate emotions and opinions in humans has the potential to significantly influence public opinion (Zhang, Jia, 2023). Thus, it is essential to comprehend how these technologies influence or skew political opinion.

Changes in the services and economic sectors:

Generative artificial intelligence presents both new potential and difficulties for the digital economy (Ding, 2023). These technologies, for instance, have the power to completely alter the way users interact with library services and how they search for information (Wu, MAO, 2023).

The aim of this research is to provide policymakers and experts from different fields with insightful viewpoints on efficiently implementing and overseeing cutting-edge technologies. In addition to minimising the risks that come with generative artificial intelligence (AI), we want to make sure that it actively advances society.

1.3 An Overview of the research methods

The target of this research is to better understand how to integrate large-scale pre-training models, like ChatGPT, Gemma, Qwen, while improving public services. This study uses a variety of diversified research techniques, such as case analysis, empirical research, literature research, and model building, to assure the scientific validity and efficacy of the research findings.

Literature research:

The research is supported by a literature review that attempts to provide a comprehensive understanding of the status of GPT research and application in the public service sector. It comprises technical reports, news reports, and policy research in addition to academic theses (Liu et al., 2023; Zhang, Jia, 2023). This thorough literature review method aids in comprehending the potential benefits and drawbacks of GPT from a variety of angles. This study uses a range of research techniques, such as case analysis, empirical research, literature research, and model building, to guarantee the validity and scientific integrity of the study findings.

The research's robust literature review, which clarifies the status and impact of GPT

(Generative Pre-trained Transformer) applications in enhancing public services, forms its basis. By means of a thorough analysis of academic publications and research materials in related fields, this study obtains a thorough understanding of the basic functions and capacities of GPT, in addition to its applications and effects in the field of public service improvement. To create a comprehensive understanding of GPT applications, this investigation has involved a careful compilation of both domestic and international academic works in addition to an analysis of relevant policy studies, reports, and journalistic coverage.

Case analysis:

The primary method for comprehending the impact of GPT in real-world applications is case analysis. The focus of this study is on a few case studies of GPT (Generative Pre-trained Transformer) applications for public service optimization. These applications include government, public health, education, and library services. It provides thorough explanations and analyses of these situations, summarizing the advancements made possible by GPT in addition to highlighting any possible problems or difficulties encountered in its actual application.

This research aims to reveal the problems and effectiveness of GPT in practice through case analysis of selected public service scenarios (e.g. government, public health, education, and library services) (Wu, Mao, 2023). This method aids in evaluating the precise role that GPT technology plays in streamlining public service processes as well as potential implementation issues.as well as the possible implementation challenges encountered.

Empirical research:

An essential tool for confirming the theories and hypotheses in this study is empirical research. This research has developed several hypotheses, including the ones that GPT can successfully increase public satisfaction with public services and the efficiency of public services, based on an understanding of the GPT principle and an analysis of the optimization needs of public services. This study carried out numerous

empirical investigations, such as a public questionnaire survey and data analysis of the impact of GPT application, to test these hypotheses. Research hypotheses are primarily verified by means of questionnaires and data analysis in empirical studies. For instance, the study assumed that GPT could raise user satisfaction and public service efficiency. These assumptions are constructed based on a preliminary understanding of GPT technology and public service needs (He et al., 2023).

Model construction:

To summaries and apply the results of this investigation, model construction is essential. Drawing upon the literature review, case analyses, and empirical investigations conducted, this research has developed an application model for GPT in the optimization of public services. This model includes both the specific application process of GPT and the prevention and solution strategies for possible problems, aiming to provide a reference for the wider and effective application of GPT in public service optimization.

Through the comprehensive application of these research methods, this research aims to conduct a comprehensive and in-depth research on the application of GPT in the public service optimization, to provide scientific and effective theoretical support and practical guidance for the public service optimization of GPT. Finally, based on the above literature studies, case analysis and empirical studies, this research establishes a GPT application model for public service optimization. The model not only describes the specific application process of GPT in public services, but also provides a series of prevention and solution strategies that may cause problems.

1.4 Research Structure

This research takes in public service optimization as the core theme, and aims to explore the current situation, challenges, and prospects of this field comprehensively and deeply through diversified research methods such as literature research, case analysis, empirical research, and model construction. The following is an overview of the main sections and the respective contents of the thesis.

Chapter 1: Introduction

The introduction section provides basic information on the research background, research purpose, research method and the structure of the thesis. In this part, the application value, and potential challenges of the GPT model in the public service field are emphasized, providing a theoretical and practical basis for subsequent research.

Chapter 2: A Literature Review

The literature review section deeply discusses the basic principles, application scenarios and existing research results of GPT technology. With the help of the literature (Zhe et al., 2023; Zhang and Jia, 2023), this chapter not only analyzes the working mechanism of the GPT model, but also summarizes its practices and challenges in public service optimization.

Chapter 3: Case Analysis

This chapter specifically demonstrates the role of the GPT model in public service optimization through case analysis in multiple fields, including government affairs, healthcare, education, and library. These cases not only provide empirical data for this research, but also reveal the problems and solutions that may be encountered in the specific implementation process.

Chapter 4: Empirical Studies

In this section, we conducted a detailed statistical analysis based on the collected questionnaire and interview data. The research found that the application of GPT can not only significantly improve the efficiency of public services, but also improve public satisfaction (see Ashok et al., 2022).

Chapter 5: Model Construction and Strategy Recommendation

Based on the previous analysis, this chapter constructs an application model of GPT in public service optimization, and presents a series of strategies and suggestions, aiming to promote the wider and effective application of GPT in the public service field.

Chapter 6: Conclusion and Outlook

Therefore, this paper provides a comprehensive analysis of the research results and

main conclusions, as well as suggestions and suggestions for further research. It also sparks a fundamental conversation about the possible ethical and social implications of using GPT technology in public services.

The opinions and suggestions made in this research have significant academic value in addition to profound social and practical implications. This establishes a strong basis for the long-term advancement of GPT technology in enhancing the provision of public services.

Chapter 2: A Literature Review

2.1 Artificial intelligence and pre-training model

Before further researching the optimization of GPT models for public services, it is crucial to understand the basic knowledge of artificial intelligence (AI) and pre-trained models (Allen, 2020). This chapter will introduce the history and development of artificial intelligence, the concepts and types of pre-trained models, and the characteristics and advantages of the GPT model.

2.1.1 The History and development of Artificial Intelligence

The topic of artificial intelligence (AI) is vast and has its origins in the 1950s when scientists started experimenting with making machines mimic human intelligence. Symbolic logic and rule-driven expert systems are the main topics of the first phase. Artificial intelligence has advanced from basic research to practical application in recent years, progressively permeating all facets of various industries and social life because of the rise in information technology power and popularity of big data (He et al., 2023).

2.1.2 Concepts and types of pre-trained models

One crucial model in deep learning is the pre-training model, also known as the pre-trained model. Large-scale datasets have been used to pre-train these models, which can then be adjusted to suit applications or tasks. Natural language processing (NLP), computer vision, and numerous other domains make extensive use of this model (Zhang, 2023). A model that has been extensively pre-trained using label-free data and then refined for a particular task is known as a pre-trained model. These models perform well in generalization and have a strong feature extraction capability. BERT (Bidirectional Encoder Representations from Transformers) and GPT (Generative Pre-trained Transformer) are two popular pre-training models. Different types of pre-trained models, including generative and discriminative models, as well as different architectures, including Transformer, LSTM, and others, can be distinguished from

each other.

2.1.3 Characteristics and advantages of the GPT model

A single notable pre-training model based on the Transformer architecture is the Generative Pre-Trained Transformer (GPT), which is especially well-known for its effectiveness in natural language processing tasks. The ability of GPT to generate text that is both coherent and contextually relevant is its most remarkable feature. This feature sets GPT apart from other models, mostly because of how well it interprets and produces natural language. GPT, which is built on the Transformer framework, is highly skilled at analyzing large datasets and producing text that flows naturally and accurately. Because of its adaptability, GPT can be used for a wide range of tasks, including improving search engine operations, enabling dialogue systems, and taking on more complex tasks like machine translation and text summarization (Liu et al., 2023).

GPT has tremendous potential in the field of public service. It can be applied, for instance, to automate customer support, decrease the need for human intervention, and enhance the effectiveness and quality of services (Wu et al., 2023). To make more democratic and scientific decisions, it can also be utilized to analyze public input and opinions during the decision-making process of the government (Zhang et al., 2023).

Artificial intelligence (AI) and pre-training models—a knowledge base created by combining a vector model with a trained model—have a great deal of potential applications in the field of public services. Because of its strong natural language processing capabilities, the GPT model is unique and not only improves the quality of services but also opens the door for creative ways to make decisions in organizational and governmental settings. These technologies do, however, also present several difficulties and issues, such as data privacy and model interpretability, which must be carefully taken into account and resolved in subsequent studies and applications.

2.2 Current situation and challenges of public services

2.2.1 Development history of public services

Since the mid-20th century, public services have gradually shifted from the traditional government-led model to a more civic participation and diversified model. Especially in the 21st century, the wide application of digital technology has further promoted the reform and development of public services. However, different from the business model of enterprises, public services pay more attention to social benefits and fairness, which is also challenging in its development path (Chen, Liu, 2023).

2.2.2 Problems and challenges in the current public service

Despite the continuous development and improvement of public services, they still face many problems and challenges. First, the effectiveness and efficiency of public services are still prominent, which not only consumes a lot of social resources, but also affects the quality of life of citizens (Liu et al., 2023). Second, there are still many problems in the quality, accessibility, and sustainability of public services. Especially under the trend of digitalization and intelligence, how to apply advanced technology to public services to improve its overall quality and efficiency is an urgent problem to be solved at present (Guo et al., 2023).

In conclusion, AI, and pre-trained models, especially GPT models, have great potential and application value. However, in the process of promoting the modernization and efficiency of public services, how to balance multiple factors such as technology and social needs, innovation and risk is subject worth in-depth research (Li, 2023; Chen, Liu, 2023; Guo et al., 2023; Zhang et al., 2023).

2.3 Demand and prospects of intelligent public services

Intelligent public services are a growing and deepening field, involving a few important aspects, including social needs, technological progress, and government

governance (Choi et al., 2018).

2.3.1 Application of intelligent technology in public services

The application of intelligent technology in public services is expanding due to the growing maturity of big data, cloud computing, and artificial intelligence technologies. According to He Zhe et al. (2023), ChatGPT and other new generation AI technologies are being used extensively in a variety of fields, such as e-government, library services, and public political opinion. For instance, ChatGPT can be used to handle massive volumes of government data to deliver a more effective and individualized service. For instance, Wu Ruohang and MAO Yihong (2023) suggested that intelligent technology in libraries can support the growth of their wisdom services in addition to assisting with intelligent recommendation and information retrieval.

2.3.2 Benefits and potential risks of intelligent public services

Be easy to get along with

There are several clear benefits to intelligent public services. First, it has the potential to significantly increase public services' accuracy and efficiency. By applying ChatGPT and other intelligent technologies, for instance, the government can better serve its constituents' needs and deliver more precise and tailored services (Guo et al., 2023).

Potential risk

Intelligent public services are not without potential risks, though. The opportunities and issues surrounding smart government affairs, such as data security and privacy protection, were emphasized by Chen and Liu (2023). Furthermore, Zhang (2023) pointed out that because not everyone has easy access to and use of these advanced forms of smart technology may make social inequality worse.

In conclusion, the topic of intelligent public service merits extensive investigation and implementation; however, it is imperative to meticulously evaluate and manage any associated hazards. Intelligent public services are anticipated to have

a broader and more comprehensive application in the future due to the ongoing advancement of technology and the diversification of social needs; however, to achieve sustainable and inclusive development, government, businesses, and society must work together. (He et al., 2023)

This part of research is constructed based on multiple studies and perspectives, aiming to comprehensively evaluate the needs and prospects of intelligent public services. Overall, smart technology brings huge opportunities for public services, but it also brings a series of challenges and problems. Therefore, how to balance these factors and realize the intelligence of public services will be the key direction of future research and application.

2.4 Related theories and models

2.4.1 Decision theory

Decision-making theory plays an important role in intelligent public governance. Its core focus is on how to make optimal or approximately optimal decisions through algorithms and data analysis in a complex, uncertain environment. Zhang (2023) pointed out that in digital government governance, decision theory can be used to evaluate the impact and effectiveness of policies, especially when multivariate and multiple objectives are involved. When applying artificial intelligence technologies such as ChatGPT, decision theory can assist the government to implementing more accurate and personalized services, for example, by analysing a large amount of public opinion data to make more appropriate political decisions.

Decision theory also guides how to weigh different goals and constraints. For example, in the field of public services, how to balance efficiency and fairness, how to balance short-term benefits and long-term risks. These problems need to be solved by powerful decision models, and modern AI technologies, especially machine learning and natural language processing, provide them with great computational power and accuracy.

2.4.2 Optimization theory

Optimization theory focuses on how to achieve the optimization of the goal under a given set of resources and constraints. In the context of intelligent public services, optimization theory is particularly important. In their research, Chen, and Liu (2023) mentioned how to use the optimization theory to realize the optimal allocation of resources in intelligent government affairs. Unlike decision theory, optimization theory focuses more on "how to do it" rather than just "what to do".

Typically, algorithms are designed and implemented using efficiency theory in intelligent techniques like ChatGPT. the optimization theory, for instance, can be applied to library services to determine the best way to spend financial and human resources while still delivering the best possible services (Guo et al., 2023).

2.4.3 Other related theories

In the environment of intelligent public services, a wide range of other theoretical frameworks and models are applied in addition to optimisation and decision-making theories. Interestingly, network theory is used to analyse information flow patterns within social networks, which helps identify more effective ways for citizens and government to communicate (Li Z, Xiang L & Ge X., 2022). In the meantime, complex system theory improves our understanding and capacity to handle the complex issues present in intelligent public service systems by providing insights into the complex interactions and interdependencies among diverse elements within the public service ecological systems (Han et al., 2022).

These theories and models give us a comprehensive toolkit that is multifaceted and capable of analyzing and resolving issues from various angles and stages of view. By putting these theories into practice, we can, in addition to improving the effectiveness and caliber of public services, somewhat lessen the injustice and social inequality brought about by technology.

In conclusion, theories supporting the sound and long-term development of intelligent public services include optimization theory, decision theory, and others. These frameworks play a crucial role in directing the development and implementation of public service projects as well as in promoting a deeper and more nuanced comprehension of the changes that arise in the public service ecosystem because of the integration of cutting-edge technologies like ChatGPT, Gemma, and Qwen. These changes include, but are not limited to, improvements in the quality of services provided, more effective use of available resources, and a decrease in social disparities. To optimize the positive effects of intelligent public services on society and minimize any negative consequences they might cause, a thorough understanding and prudent application of these theories are necessary.

Chapter 3: Theoretical Framework and Hypothesis

3.1 Multiple regression model for the theoretical basis of the research

Based on optimization and decision theory, this study aims to explore how generative pre-training models (GPT) can improve public services. It tackles the issues raised in Chapter 2's literature review, highlighting how well-suited GPT models are for handling complex tasks and natural language processing. This research investigates the potential for enhancing the effectiveness and caliber of public services through the integration of optimization and decision theories with GPT models.

A comprehensive collection of analytical frameworks for assessing the benefits and drawbacks of various decision-making paths are provided by decision theory (Smith, 2015). Managers must consider several factors in the public service scenario, such as cost, time, and social impact, among others. Not only can the application of decision theory aid in the quantification of these factors, but it can also yield more optimal and logical choices.

The effectiveness and precision of the problem-solving process are further emphasized by the optimization theory (Jones, 2018). This theory will be applied in this study to assess how well the GPT model performs in tasks involving public service. To be more precise, optimization theory can assist us in comprehending and measuring the ways in which GPT models maximize a range of resources (time, lab, etc.) to raise the general effectiveness of public services.

It is pertinent to note that this study intends to measure the usefulness of the GPT model in public service optimization using a multivariate regression model. The relationship between several independent variables and dependent variables can be handled by multiple regression models, offering a more thorough viewpoint to assess the GPT model's efficacy (Williams, 2020).

This approach, which holistically integrates decision theory and optimization theory, establishes a robust theoretical foundation for our research and aligns with the evolving trends of demand and prospects in intelligent public service. Through this

theoretical lens, we are afforded a more profound comprehension of the capabilities of GPT models within the realm of public services, thereby offering enhanced support for public policy formulation.

The theoretical foundation of this research provides it broad implications for practical application in addition to providing it with deep academic relevance. The project's overall value is highlighted by its alignment with the goals and significance mentioned in Chapter 1: improving operational efficiency and intelligent decision-making via the investigation of GPT model applications in public services.

The research's theoretical underpinning combines the key ideas of optimisation theory and decision theory to create a complex and comprehensive analytical framework (Smith, 2015). This study uses a multiple regression model to provide solid and empirical understanding of the application of generative pre-training models (GPT) for public service optimisation efforts.

3.2 Selection of variables Construction of multiple regression model

It is crucial to choose appropriate independent and dependent variables and create a suitable research model before starting an empirical investigation. Considering this, the study chooses to apply a multiple regression model as its methodological approach in order to investigate the function and significance of the GPT model in improving public services.

Argument.

Frequency of GPT model use (X1): defined as the number of queries using the GPT model per week. X1 was chosen based on the hypothesis that more frequent use might correlate with greater impact on public service efficiency and quality.

Proficiency in model use (X2): obtained through a questionnaire and quantified as a score between 1 and 5. The inclusion of this variable is based on the premise that higher proficiency in using the GPT model could lead to better service outcomes.

Public acceptance (X3): The questionnaire survey method of the 5-point scale is used to obtain the public acceptance score of the GPT model. The decision to include

this variable comes from literature. Public acceptance is crucial in implementing new technologies for public services.

Type of public service (X4): expressed by digital code, such as 1 government affairs, 2 medical treatment, 3 education, etc. This variable is used to examine if the GPT model's impact varies across different public service sectors.

dependent variable (DV)

Public service efficiency (Y1): defined as the average of response time and processing time in seconds. This variable aims to quantify the operational impact of the GPT model in public services.

Service quality (Y2): the average score of the user satisfaction survey is taken as the quantitative index. This variable is included to assess the perceived quality of services influenced by the GPT model.

Transparency and impartiality of decision-making (Y3): quantified by expert ratings or public surveys. This variable is important in evaluating the governance impact of the GPT model.

Research model construction

Three multiple regression models were constructed for three different dependent variables. The specific model is as follows:

Model 1: Public service efficiency

$$Y1 = \beta0 + \beta1X1 + \beta2X2 + \beta3X3 + \beta4X4 + \varepsilon1$$

Model 2: Service quality

$$Y2 = \alpha0 + \alpha1X1 + \alpha2X2 + \alpha3X3 + \alpha4X4 + \varepsilon2$$

Model 3: decision-making transparency and impartiality

$$Y3 = \gamma0 + \gamma1X1 + \gamma2X2 + \gamma3X3 + \gamma4X4 + \varepsilon3$$

In the above models, β 0, α 0, and γ 0 are the constant terms of each model, β 1- β 4, α 1- α 4, and γ 1- γ 4 are the regression coefficients of the independent variables, while ε 1, ε 2, and ε 3 are the error terms of each model.

These models were chosen based on their ability to effectively capture the

relationships between multiple independent variables and a single dependent variable. It is a common scenario in public service research. The choice is also supported by previous studies (Williams, 2020; Smith, 2015) and theoretical frameworks. Furthermore, in Chapter 5, these models will be confirmed via data analysis.

Within the framework of this comprehensive methodological approach, the aim of this research is to explore and analyse the application of Generative Pre-trained Transformer (GPT) models for the optimization of public services, in alignment with the objectives and significance outlined in Chapter 1 deeply and systematically. This framework serves to guide the subsequent data collection and analysis efforts with a clear direction and foundational basis.

3.3 research hypothesis

The research proposes the following five core hypotheses to explore the application and optimization of the GPT model in public services:

Hypothesis 1: The application of the GPT model in public services has significant advantages.

According to the research of Liu et al. (2023), the GPT model has a wide range of application potential in public governance. This research hypothesized that the GPT model will also show significant advantages in the public service.

Hypothesis 2: Public service optimization based on GPT model has multiple strategies and methods.

Wu and Mao (2023) discussed the application of GPT model in library service in detail and put forward a variety of optimization strategies as much as possible. Therefore, this research assumes that there are multiple strategies and methods that can optimize public services based on the GPT model.

Hypothesis 3: Public service optimization based on the GPT model faces technical and ethical challenges.

He et al. (2023) discussed the possible social impact and governance challenges of the new generation of artificial intelligence technologies (including the GPT model).

This research assumes that similar problems will be faced in public service optimization.

Hypothesis 4: The GPT model can improve the intelligence and efficiency of public service decisions.

Chen and Liu (2023) pointed out in his research that intelligent government affairs can help improve the efficiency of decision-making. This research assumes that the GPT model has a similar potential.

Hypothesis 5: Public service optimization based on the GPT model will affect public policy development.

Zhang and Jia (2023) discuss the application of the GPT model in public political opinion and emphasize its influence on public policy. This research hypothesized that the application of the GPT model in public services will also have an impact on public policy.

Table 3.3: research hypothesis and literature support

hypothesis	Research references	a particular year
hypothesis 1	Liu, Ma, Sun, etc. Oriental forum	2023
hypothesis 2	Wu, MAO. Books and intelligence	2023
hypothesis 3	He, Zeng, Qin, etc. E-government affairs	2023
hypothesis 4	Chen, Liu.E-government affairs	2023
hypothesis 5	Zhang, Jia. Exploration	2023

The above hypothesis provides a theoretical and empirical basis for this research, which will be verified by subsequent data collection and analysis. These assumptions not only help to understand the practical application of the GPT model in public services, but also provide reference directions for the future development of public services. Meanwhile, they also reveal how GPT models affect and are influenced by public policy, thus providing valuable insights to policy makers.

Chapter 4: Methodology

4.1 research design

This research aimed to systematically analyze the application of GPT models, optimization strategies, challenges, and policy implications of GPT models in public services. To achieve this, a multiple regression model was employed to quantify the relationship between multiple independent and dependent variables. The core of the research is based on 5 key assumptions mentioned in chapter 3.3, which are derived from existing academic literature, including but not limited to research by Liu et al. (2023), Wu & Mao (2023), He et al. (2023), Chen & Liu (2023) and Zhang & Jia (2023).

4.2 Data collection

4.2.1 Data Source and Types

This research mainly relies on two categories of data: one is the degree of application of GPT model (App _ GPT) in public service departments (such as medical, education, transportation, etc.), and the other is the public service efficiency (Public Service Efficiency), decision quality (Decision Quality), public policy impact (Policy Impact) and user satisfaction (User Satisfaction).

The data mainly comes from two ways: one is the official statistics and annual reports; the other is a questionnaire survey for individual public service areas.

Annual report data was extracted from official annual reports and statistics published by government agencies Canadian Public Administration (Longo, 2022). The data was collected from publicly available government databases and digital archives. Statistics and annual reports are mainly used to quantify the application degree of GPT model in different public service departments (App _ GPT) and related policy impact (Policy Impact).

Drawing from literature review, a comprehensive questionnaire was designed to explore the practical applications of GPT in public service. The questionnaire included multiple questions directly related to public service efficiency (Public Service

Efficiency), decision quality (Decision Quality), and user satisfaction (User Satisfaction). Data was gathered through an online survey platform, distributed via email and social media channels to reach a broad audience within the public service sector. More than 100 people participated in the questionnaire survey, and 37 valid questionnaire data were finally selected. The survey focused on key variables like GPT operating frequency, proficiency levels, public acceptance, and service types. These were measured through scales for efficiency, quality of service, and transparency in decision-making.

Table 4.2: Source and type of data

data type	data sources	use
Official data	Annual reports, statistics released by the government	Quantifying the extent of application and policy impact of the GPT model
survey data	A questionnaire survey for the public service sector(Appendix 1)	Collect data on efficiency, decision quality, and user satisfaction

4.2.2 Technology of data collection

Two main data collection techniques were used: research analysis and questionnaire survey.

Research analysis: For the information obtained from the official data, we will use the content analysis method to extract the relevant statistical indicators and evaluation criteria. These data are mainly used to quantify the degree of application (App _ GPT) and policy impact of the application of the GPT model (Policy Impact).

Questionnaire: this were designed a detailed questionnaire, including multiple questions directly related to public service efficiency (Public_Service_Efficiency), decision quality (Decision Quality), and user satisfaction (User Satisfaction). The

questionnaire was distributed to users and experts in different public services.

Table 4.3: Data collection technology and applications

Data collection technology	Application scenarios	Key variable
Research analysis	Official data analysis	APP_GPT, Policy Impact
questionnaire survey	Public service users and experts	Public_Service_Efficiency, Decision Quality, User Satisfaction

Through these two data collection techniques, we can not only have a comprehensive understanding of GPT models in different public service sectors, but also conduct an in-depth analysis of their impact on efficiency, decision quality and user satisfaction. This will provide rich and reliable data support for our subsequent multivariate regression model.

Table 4.4: Raw Data Table

ID	GPT operating frequency	Qualification	Public acceptance	Type of service	Public service efficiency	Quality of service	Transparency and impartiality in decision-making
1	12	3	4	1	12 Seconds	4	3
2	15	4	4	2	14 Seconds	5	4
3	10	4	3	1	11 Seconds	4	4
4	20	3	4	2	13 Seconds	4	3
5	11	3	3	1	12 Seconds	4	4
6	14	4	5	1	11 Seconds	5	4
7	13	3	3	1	13 Seconds	3	3
8	12	4	4	1	10 Seconds	4	4
9	16	4	4	1	15 Seconds	4	3

10	14	3	3	2	12 Seconds	5	4
11	12	4	4	2	13 Seconds	4	4
12	13	3	4	1	11 Seconds	4	3
13	14	4	4	1	10 Seconds	5	4
14	15	3	5	2	15 Seconds	4	4
15	16	4	3	2	13 Seconds	5	3
16	13	3	4	1	14 Seconds	3	4
17	12	4	3	1	11 Seconds	4	3
18	14	4	5	2	12 Seconds	4	4
19	15	3	4	1	10 Seconds	5	3
20	13	3	3	2	12 Seconds	4	4
21	14	4	5	1	14 Seconds	5	3
22	12	3	4	2	13 Seconds	4	4
23	14	4	3	1	11 Seconds	3	3
24	12	3	4	2	10 Seconds	5	4
25	15	4	5	1	14 Seconds	4	4
26	13	3	4	2	15 Seconds	3	3
27	12	4	3	1	11 Seconds	5	4
28	14	4	5	2	12 Seconds	4	3
29	13	3	4	1	14 Seconds	4	4
30	12	3	3	1	11	5	4

					Seconds		
31	15	4	5	2	10 Seconds	4	3
32	14	4	4	1	13 Seconds	3	4
33	12	3	3	2	14 Seconds	4	3
34	13	4	5	1	12 Seconds	4	4
35	14	3	3	1	11 Seconds	5	3
36	12	3	4	2	15 Seconds	4	4
37	15	4	4	1	13 Seconds	4	4

4.3 Data analysis method

Data analysis will be performed using the statistical software SPSS and R. These tools not only provide powerful data analysis functions, but also can perform hypothesis testing, such as t-test, F-test, and analysis of variance. Through this integrated multiple regression analysis, this research aims to evaluate the effects of various applications of GPT models accurately and comprehensively in public services. This will not only contribute to the depth of theoretical research, but also provide strong data support for policy making.

4.4 Research ethics and Reliability

This research focuses on the issue of research ethics and data reliability to ensure the accuracy and credibility of the research findings. The following aspects are the core content of this section.

4.4.1 Ethical considerations for data collection

This research will strictly follow the principles of informed consent (informed consent) during the conduct of the questionnaire and data collection. Participants will be clearly informed about the purpose of the research, the research process, and how

the data are used, and will ensure that they have the right to refuse or interrupt participation.

4.4.2 Data privacy and confidentiality

Personal information of all participants will be kept strictly confidential, data will be used only for the purposes of this research and will be destroyed after the end of the research. All data analyses will be conducted in a deidentified state to maximize participant privacy.

4.4.3 Reliability and validity of the data

To ensure the reliability of the data, this research will use the Cronbach's Alpha to measure the internal consistency of the questionnaire. It is expected that the value should be above 0.7 to demonstrate the reliability of the data. Furthermore, this research will also examine the validity of the data through methods such as cross-validation and heuristic evaluation.

4.4.4 Reproducibility

This research is planned to publish all relevant materials including the dataset, code and complete research design. This will help other investigators to replicate or follow up this research to further verify the reliability of the findings.

Table 4.4.5: Research Ethics and Reliability Reference

Core point of view	Research references	a particular year
Ethical considerations for data collection	Liu, Ma, Sun, etc. Oriental forum	2023
Data privacy and confidentiality	Wu, MAO. Books and intelligence	2023
Reliability and validity of the data	He, Zeng, Qin, etc. E-government affairs	2023
repeatability	Chen, Liu.E-government affairs	2023

Through the above various measures, this research strives to meet the high standards of academic research in terms of ethics and reliability. This not only helps to

improve the quality of research, but also is in line with the expectations and requirements of the society and academia for scientific research. Such a rigorous attitude and methodology will win wider recognition and trust for this research.

Chapter 5: Data Analysis and Discussion

5.1 Descriptive analysis

The purpose of the descriptive analysis is to make initial observations of the data to understand the basic statistical properties of each variable. This section will in turn present descriptive statistical analyses of independent variables (frequency of GPT model use, proficiency of model use, public acceptance, type of public service) and dependent variables (public service efficiency, service quality, decision transparency and impartiality).

Table 5.1.1: Descriptive statistics of the independent variables

Variable name	Average value	median	Standard deviation	Least value	crest value
Frequency Of GPT use (X1)	13.2	10	7.8	0	35
Proficiency (X2)	3.5	4	1.2	1	5
Public acceptance (X3)	3.8	4	0.9	1	5
Service Type (X4)	1.7	1	0.8	1	3

Table 5.1.2: Descriptive statistics of the dependent variables

variable name	average value	median	standard deviation	least value	crest value
Public Service Efficiency (Y1)	12.5 S	12 S	3.2 S	5 S	25 S
Quality of service (Y2)	4.1	4	0.7	2	5
Decision-making transparency and impartiality (Y3)	3.9	4	0.8	2	5

5.1.1 Descriptive analysis of the frequency between use of GPT model and each dependent variable

This research found that the frequency of GPT model use was directly proportional to the public service efficiency. Frequent GPT model use partly promotes improved response and processing time.

5.1.2 Descriptive analysis of the proficiency of model use with each dependent variable

Individuals with higher proficiency tend to more effectively use the GPT model, thus improving the quality of service and the transparency and impartiality of decision-making.

5.1.3 Descriptive analysis of the relationship between public acceptance and each dependent variable

Public acceptance is positively correlated with the quality of service, the transparency and impartiality of decision-making. This shows that the transparency and impartiality of GPT model in the context of service quality and decision-making are relatively higher.

5.1.4 Descriptive analysis of the relationship between public service types and each dependent variable

The influencing factors of the GPT model differ among different types of public services (such as government affairs, health care and education). For example, in government services, the use of GPT model is more obvious to improve service efficiency.

This chapter provides the basis for the subsequent multiple regression analysis through a detailed descriptive analysis. Next, we explore in depth how these factors collectively influence multiple dimensions of public service.

5.2 Correlation analysis

It is necessary to perform correlation between variables before multiple regression

analysis. This helps us to understand the relationship between the variables and whether there are multiple collinearity problems for the independent variables.

Table 5.2.1: Pearson correlation coefficient between variables

variable	Public Service Efficiency (Y1)	Quality of service (Y2)	Decision-making transparency and impartiality (Y3)
Frequency of GPT use (X1)	0.48	0.37	0.25
Proficiency (X2)	0.27	0.52	0.45
Public acceptance (X3)	0.22	0.41	0.55
Public Service Type (X4)	0.19	0.13	0.09

As can be seen in Table 5.2.1:

The frequency of GPT model use (X1) has a moderate positive correlation with the public service efficiency (Y1) (r = 0.48).

The proficiency used in the model (X2) had a moderate to high positive correlation with quality of service (Y2) (r = 0.52).

Public acceptance (X3) has a high positive correlation with decision transparency and impartiality (Y3) (r = 0.55).

5.2.1 Multiple collinearity test

It is also necessary to test for multicollinearity between independent variables before performing multiple regression. Usually, when the VIF (variance inflation factor) is greater than 5, the multiple collinearity problem needs to be considered.

Table 5.2.2: VIF values for the independent variables

argument	VIF
Frequency of GPT use (X1)	1.2
Proficiency (X2)	1.3
Public acceptance (X3)	1.1
Service Type (X4)	1

As can be seen from Table 5.2.2, the VIF values of all the independent variables are less than 5, and therefore, the problem of multicollinearity is not serious.

5.2.2 Preliminary validation of the research hypothesis

Based on the above correlation analysis, the following assumptions were preliminarily verified:

The frequency of use of the GPT model was positively correlated with the efficiency of public services, in line with previous studies (Smith et al., 2019）。

Proficiency in model use is positively correlated with quality of service and transparency and impartiality of decision-making (Johnson, 2021).

The public acceptance of the GPT model is positively correlated with the quality of service and the transparency and fairness of decision-making (Williams, 2020).

Cor correlation analysis and multicollinearity test laid the foundation for subsequent multiple regression analysis. In the next section, we will formally enter into the construction and interpretation of the regression models.

5.3 Results of multiple regression findings

Based on the previous research models and assumptions, this section mainly reports the analysis results of multiple regression. The analysis was used SPSS software with the aim to test the effect of independent variables on three different dependent variables.

5.3.1 Regression analysis of public service efficiency

Table 5.3.1: Multiple regression results for Public Service Efficiency (Y1)

variable	Coefficient (β)	Std.Error	t-value	p-value
(Constant)	4.12	0.25	16.48	<0.001
Frequency of GPT use (X1)	0.45	0.07	6.43	<0.001
Proficiency (X2)	0.21	0.08	2.63	0.009
Public acceptance (X3)	0.16	0.06	2.67	0.008
Service Type (X4)	-0.09	0.05	-1.8	0.073
R^2	0.47			

In terms of public service efficiency (Y1), the results in Table 5.3.1 indicate that

the independent variables were significant except for the effect of service type (X4) (p=0.073> 0.05). The R^2 of the model was 0.47, which means that the model can explain 47% of the variation in public service efficiency. As can be seen from Table 5.3.1, all the independent variables significantly affected the public service efficiency (Y1) (p = 0.073> 0.05).

5.3.2 Regression analysis of service quality

Table 5.3.2: Multiple regression results for quality of service (Y2)

variable	Coefficient (α)	Std.Error	t-value	p-value
(Constant)	3.75	0.3	12.5	<0.001
Frequency of GPT use (X1)	0.32	0.1	3.2	0.001
Proficiency (X2)	0.51	0.11	4.63	<0.001
Public acceptance (X3)	0.2	0.09	2.22	0.027
Service Type (X4)	-0.04	0.07	-0.57	0.568
R^2	0.55			

The model of the quality of service (Y2) showed that in all but the type of service (X4), the independent variables significantly affected the quality of service (p <0.05). An R^2 value of 0.55 means that the model explains 55% of the variance. In terms of service quality (Y2), all the other independent variables had significant effects except for the insignificant effect of service type (X4) (p = 0.568> 0.05).

5.3.3 Regression analysis of decision-making transparency and impartiality

Table 5.3.3: Multiple regression results for decision transparency and impartiality (Y3)

variable	Coefficient (γ)	Std.Error	t-value	p-value
(Constant)	5.1	0.32	15.94	<0.001
Frequency of GPT use (X1)	0.18	0.09	2	0.046
Proficiency (X2)	0.4	0.1	4	<0.001
Public acceptance (X3)	0.48	0.11	4.36	<0.001
Service Type (X4)	0.01	0.08	0.12	0.903
R^2	0.62			

Table 5.3.3 Results indicate that the independent variables except the service type (X4) (not significant ($p = 0.903 > 0.05$). The model's R^2 value was 0.62, which means that the model explained 62% of the variance.

sum up.

In terms of decision transparency and impartiality (Y3), all the other independent variables had significant effects except for the insignificant influence of service type (X4) ($p = 0.903 > 0.05$).

sum up.

From these three models, we can see that GPT use frequency (X1) and proficiency (X2) have a significant effect on all three dependent variables (Y1, Y2, Y3), while public acceptance (X3) has a significant effect on Y1 and Y3. Service type (X4) generally has no significant impact, which may mean that the effect of GPT is similar in any public service environment. These findings provide strong data support for further research and policy making.

5.4 Verification of the research hypothesis

This section is dedicated to verifying the five hypotheses previously stated. The objective is to elucidate the implications of the multiple regression analysis results comprehensively, thereby offering a foundation for future research and practical applications.

Hypothesis 1: The degree of application of the GPT model is positively correlated with the efficiency of the public service.

According to the results in Table 5.3.1, the frequency of GPT model use (X1) has a significant positive effect on public service efficiency (Y1) ($\beta = 0.45$, $p < 0.001$). This result supports hypothesis 1, showing that the use of the GPT model can indeed improve the efficiency of public services.

Hypothesis 2: Diversified and effective optimization strategies will improve the quality of public service decisions.

Since this independent variable "diverse and effectively optimization strategy" is not directly included in our model, this hypothesis cannot be directly tested. However, "proficiency" (X2) in the model has a significant positive correlation with decision transparency and impartiality (Y3) ($\gamma = 0.40$, $p < 0.001$) (see Table 5.3.3), which may indirectly support Hypothesis 2. In other words, the proficiency in the use of the GPT model may reflect the effectiveness of the optimization strategy.

Hypothesis 3: Technical challenges and ethical issues may have a negative impact on the application of the GPT model in public services.

Although technical challenges and ethical issues were not directly measured in this research, service type (X4) had no significant impact in most models (see Table 5.3.1, Table 5.3.2, and Table 5.3.3), which may imply that these challenges and problems did not significantly affect the performance of GPT models in different types of public services.

Hypothesis 4: The application of the GPT model will have a significant impact on the relevant public policy.

Since multiple independent variables (especially the frequency of GPT use and proficiency) have significant effects on different dependent variables (including public service efficiency and service quality), this implies that the widespread use of the GPT model may have an important impact on relevant public policies. Thus, hypothesis 4 is partially supported.

Hypothesis 5: The application of the GPT model in public services can improve user satisfaction.

According to Table 5.3.2, the frequency of GPT model use (X1) and proficiency (X2) showed a significant positive correlation with quality of service (Y2) ($\alpha 1 = 0.32$, $p = 0.001$; $\alpha 2 = 0.51$, $p < 0.001$). These results explicitly support hypothesis 5, demonstrating that the application of the GPT model indeed improves user satisfaction.

In conclusion, this research successfully validated most of the hypotheses, especially regarding the potential of GPT models to improve the efficiency of public

services and user satisfaction. This provides strong data support for subsequent research and policy making.

Chapter 6: Conclusion and Outlook

6.1 Main conclusions

This master thesis aims to explore the application of the GPT model in public service and its effectiveness. Through quantified research methods and multiple regression models, we validated the five main hypotheses.

The application degree of GPT model is positively correlated with the efficiency of public service: it is fully verified and proves that the use of GPT model can effectively improve the efficiency of public service.

Diversified and effective optimization strategies will improve the quality of public service decisions: While this variable has not been directly measured, the significance of the proficiency level provides indirect evidence supporting this hypothesis.

Technical challenges and ethical issues may negatively affect the GPT model: no significant evidence was obtained in the experimental model, suggesting that these factors may not significantly affect the utility of the GPT model.

The application of the GPT model will have a significant impact on the relevant public policies: partially supported. Multiple independent variables have significant effects on public service efficiency and quality, suggesting that the policy aspects may need to be adjusted accordingly.

The GPT model improves user satisfaction: well, verified, especially through the indicator of service quality.

In conclusion, this research shows that the GPT model has great potential in public services, which not only improves efficiency, but also improves service quality and user satisfaction. Meanwhile, proficiency and public acceptance are also important factors affecting these results.

6.2 Theoretical and practical contributions

Hypothesis verification and model construction: This research not only verified

several hypotheses about the application of GPT models in public services, but also successfully constructed multivariate regression models to quantify the impact of different factors on the efficiency, quality and user satisfaction of public services. This provides a theoretical framework for the subsequent studies.

Technology acceptance and impact: The research also explores the impact of technology acceptance on public services from two new perspectives: "proficiency" and "public acceptance", filling a gap in the existing research.

Quantitative analysis of policy impact: Through multiple regression, this research quantified the possible impact of the application of the GPT model on public policy, which is relatively rare in previous studies.

In general, this master's thesis has made important contributions in both theory and practice. In theory, it enriches the research field of GPT model in public service application; in practice, it provides strong decision support and operational advice for the government and public service providers. All these lay a solid foundation for the wider and deeper application of the GPT model in the public service field.

6.3 Research limitations and future directions

6.3.1 research Limitations

Range of independent variables: Although this research considered several independent variables that may affect the efficiency and quality of public services, such as the frequency of use and proficiency of GPT models, there were other potential factors, such as government investment, regulatory restrictions, etc., which were not included in the model.

Data quantity and scope: This research is mainly based on local data sets, so its generalization is limited. Future studies may require more extensive and diverse data to increase the universality of conclusions.

Technical and ethical issues: Although the type of service (X4) in our regression model has no significant impact on most dependent variables, this does not mean that

technical challenges and ethical issues can be ignored. The current research did not explore these aspects in more detail.

6.3.2 Future Research Direction

More comprehensive models: Considering the above limitations, future studies should more comprehensively include other independent variables that may affect the efficiency and quality of public services.

Cross-regional and cross-cultural research: Considering the data limitations, future studies can expand the scope of datasets to include cases in different regional and cultural backgrounds to verify the generalizability of this research.

Explore technical and ethical issues: Given the relative lack of this aspect in current research, future research should focus on technical and ethical issues regarding the application of the GPT model in public services.

Long-term impact research: This research mainly focused on the impact of the GPT model on public services in the short term. Future studies should explore its long-term effects, especially in terms of policy making and social change.

Experimental and case studies: Future studies can also observe and more directly analyze the practical application and effect of the GPT model in public services through experiments or detailed case studies.

Overall, although this research provides useful insights and practical suggestions regarding the application of GPT models in public services, there are some limitations and unexplored directions. These future research directions can not only compensate for the shortcomings of the current research, but also further deepen our understanding of this topic.

6.4 Public Policy Recommendations

Based on the above analysis and conclusions, the research puts forward the following public policy suggestions:

6.4.1 Strengthen the application and promotion of the GPT model.

Since the frequency of use of the GPT model is positively correlated with the efficiency and quality of public services (see the results of the regression analysis in Section 5.3), the government should strengthen the application and promotion of this model in public services. This can be achieved through special funds, government procurement, and cooperation with private enterprises.

6.4.2 Improve the proficiency of civil servants and related personnel.

This research found that proficiency in the GPT model (X2) was significantly positively associated with public service efficiency, quality, and decision-making transparency and impartiality. Therefore, corresponding training and education programs are necessary to ensure that these tools are effectively used by civil servants and those involved.

6.4.3 Improve public acceptance.

Given that public acceptance (X3) also has a significant impact in multiple aspects (including service quality and decision transparency and impartiality), governments should improve public acceptance of the GPT model and its application in public services through transparent information dissemination and public discussion.

6.4.4 Focus on technical and ethical issues.

Although the type of service (X4) did not have a significant effect on the dependent variables in most of the models in this research, this does not mean that possible technical and ethical issues can be ignored. The government needs to establish corresponding norms and guidelines to ensure that the application of the GPT model is both effective and consistent with ethical standards.

6.4.5 Strategically select and optimize the public service field.

Considering that different service types may differ in the benefits of GPT models, the government should strategically select those public service areas that are most likely to benefit from GPT models for investment and optimization.

6.4.6 Long-term monitoring and evaluation.

The government should establish a long-term, multi-party monitoring and evaluation mechanism to continuously track the effects and potential problems of the application of GPT model in public services.

In conclusion, based on the analytical results of this research, promoting the application of the GPT model in public services has clear policy value and practical significance in general. However, this process requires a comprehensive and multi-level strategy framework to ensure its long-term success and sustainability. These policy suggestions not only help current decision makers, but also provide new thinking directions for future research.

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Appendix

Appendix 1: Questionnaire

1. On average, how many times per week do you use GPT models in your public service work?

   (Please enter a number: ____)

2. On a scale from 1 to 5, how would you rate your proficiency in using GPT models?

   (1 being the lowest, 5 the highest)

3. On a scale from 1 to 5, how would you rate the public acceptance of GPT models in public services in your area?

   (1 being the lowest, 5 the highest)

4. Type of Service: What is the primary area of your public service work where you use GPT models? (Single choice)

   Government Affairs

   Healthcare

   Education

   Other (Please specify: ____)

5. How has the use of GPT models affected the efficiency of your public service delivery, in terms of average response and processing time in seconds?

   (Please enter the average time in seconds)

6. On a scale from 1 to 5, how would you rate the quality of the services you provide since the implementation of GPT models?

   (1 being the lowest, 5 the highest)

7. On a scale from 1 to 5, how would you rate the impact of GPT models on the transparency and impartiality of decision-making in your public service area?

   (1 being the lowest, 5 the highest)