Vol 15, Issue 3, (2025) E-ISSN: 2222-6990

Navigating AI Adoption Challenges in China's Public Sector: Implications for Efficiency and Performance

Li Xiaoyan, Prof. Dr. Reynaldo Gacho Segumpan City Graduate School, City University Malaysia Email: 598475107@qq.com, dr.reynaldo@city.edu.my

To Link this Article: http://dx.doi.org/10.6007/IJARBSS/v15-i3/25098 DOI:10.6007/IJARBSS/v15-i3/25098

Published Date: 22 March 2025

Abstract

The adoption of Artificial Intelligence (AI) in China's public services presents significant challenges that impact efficiency and performance. This study explores the major barriers to AI implementation, including technological feasibility, infrastructure limitations, talent shortages, ethical concerns, and financial constraints. Using an exploratory research approach, the study employs surveys and interviews to examine how AI adoption affects public service delivery. Quantitative data analysis indicates that while some participants recognize AI's potential in improving efficiency and personalization, a significant proportion remains skeptical about its overall benefits. Qualitative insights highlight the inefficiencies caused by inconsistent AI adoption across regions, resistance to change, and the lack of skilled professionals. Additionally, ethical issues such as algorithmic bias and data privacy concerns contribute to reduced public trust in AI-driven services. The study applies the Diffusion of Innovation (DOI) theory to understand AI adoption patterns and the Cost-Benefit Analysis (CBA) framework to evaluate its economic viability. The findings reveal that AI adoption has been met with mixed reactions, with concerns about delayed implementation, unequal access to services, increased workload for employees, reduced public trust, and missed opportunities for innovation. The results suggest that despite its potential benefits, AI implementation in China's public sector is hindered by systemic challenges that require coordinated efforts from government, industry, and academia. To enhance AI-driven efficiency and performance, this study recommends investing in AI infrastructure, improving training programs, implementing ethical guidelines, and promoting data-sharing frameworks. Addressing these challenges can lead to more inclusive, transparent, and effective public services. Future research should focus on longitudinal studies to assess the long-term impact of AI adoption and explore innovative policy measures for sustainable AI integration in public administration.

Keywords: Ai Adoption, Public Services, Efficiency, Challenges, China

Vol. 15, No. 3, 2025, E-ISSN: 2222-6990 © 2025

Introduction

The adoption of Artificial Intelligence (AI) in China's public services faces multifaceted challenges that impede its full realization and subsequent impact on efficiency and performance. One of the primary concerns is the looming risk to millions of Chinese workers as AI has the potential to automate approximately half of work activities in the country (Wang et al., 2021). This automation threatens jobs that rely on predictable programming and routine tasks, exacerbating income inequality and raising questions about livelihood security for affected employees (Fatima et al., 2020). Moreover, the sudden displacement of jobs by Al technologies can disrupt the labor market and exacerbate existing disparities in digital skills and income. Technical feasibility emerges as a critical factor influencing the pace and extent of AI adoption. While AI promises economic benefits, including enhanced productivity, sustained efforts are required to stay at the forefront of this rapidly evolving field. However, China faces challenges in nurturing a supportive ecosystem akin to those in the USA, necessary for sustained innovation and development in AI. The lack of a robust data-sharing ecosystem further hinders progress, as access to diverse datasets is essential for training AI systems effectively. Hence, companies are required to have data related to AI so that they know which technologies of AI are necessary for the success of companies and how to integrate them into the task of technology (Chen & Chen, 2021). Big companies in China such as Alibaba can hire specialists in AI and hence they provide the necessary expertise and skills. However, small and medium companies find it very difficult to hire specialists in AI.

The shortage of skilled labor poses a significant barrier to AI development and adoption in China. Unlike the USA, where a substantial proportion of data scientists possess over a decade of experience, China struggles to meet its AI talent requirements. Additionally, the adoption of AI technologies may exacerbate income inequality by creating premiums for digital skills while reducing demand for low and medium-skilled workers (Almaiah et al., 2020). Ethical and social concerns surrounding AI adoption compound the challenges. The displacement of workers by AI technologies raises ethical questions about employment security and societal well-being. Furthermore, issues of data privacy, algorithmic bias, and legal liability present significant hurdles to AI adoption. Companies must navigate these concerns while ensuring the ethical practice and oversight of AI technologies. The high cost of AI deployment emerges as a significant barrier, particularly for small and medium-sized enterprises (SMEs) (Sharma et al., 2020). While large companies like Tencent can afford to hire AI specialists, smaller firms face financial constraints. Resistance to change further complicates AI adoption, as employees fear job displacement and lack understanding of AI technologies. Legal and ethical concerns surrounding data usage and privacy also deter firms from embracing AI fully.

Addressing these challenges requires a comprehensive approach that considers both technological and socio-economic factors. Government policies play a crucial role in fostering an enabling environment for AI development and adoption (Chen & Chen, 2021). Moreover, initiatives to bridge the AI talent gap and promote data-sharing frameworks are essential for sustainable AI growth in China. Thus, the adoption of AI in China's public services is hindered by a myriad of challenges, including technological feasibility, talent shortages, ethical considerations, and financial constraints (Herath & Mittal, 2022). Addressing these issues requires a coordinated effort from government, industry, and academia to ensure the responsible and equitable deployment of AI technologies. About half of data scientists in the

Vol. 15, No. 3, 2025, E-ISSN: 2222-6990 © 2025

United States and 40% of data scientists in China have more than ten years of experience, respectively. China currently has thirty AI-focused universities and research labs, but as a result, it is unable to meet the demands of the AI industry for new hires. Although AI can increase productivity and growth in production, wealth inequality is always a trade-off (Almaiah et al., 2020). As AI becomes more widely used, fewer people will be needed for certain job roles. Alibaba, for instance, has incorporated AI customer service into its mobile payment apps. The objectives of the research are as below:

- To explore current AI's impact on efficiency and performance in China's public service.
- To identify the challenges in the adoption of AI in public services in China.
- To identify the impact of AI adoption challenges on efficiency and performance.
- To recommend strategies boosting AI adoption for enhanced efficiency in China's public services.

Literature Review

China needs to create a framework that allows for continuous improvements to its infrastructure if it wants to use artificial intelligence efficiently. The interplay between artificial intelligence (AI) is essential for making a meaningful contribution to the maintenance of infrastructure development. This will help China to better comprehend business applications. These are the areas in which China can be considered to assist in building a concept of the type of learning that will be delivered in the organizations. As a result, it is essential for China to understand the evolution of its infrastructure so that it can properly manage operations connected to artificial intelligence. In order to continue improving its wellbeing, every organization must verify that its AI infrastructure is being followed.

Infrastructure limitations are a major obstacle to the growth and development of elearning platforms, especially in areas where access to technology is restricted. In countries such as China, where higher education institutions are working hard to integrate mobile learning and video conferencing solutions into their curricula, the absence of advanced infrastructure, including high-speed internet, modern computing devices, and dependable power sources, presents a significant challenge. The digital gap, which separates people who have access to strong infrastructure from those who do not, makes it difficult for mobile learning systems to be widely adopted. According to research, students in remote and rural areas of China, where broadband internet connection is still being developed, frequently have trouble accessing e-learning content or engaging in real-time video conferencing sessions (Li & Wang, 2023). This difference in access to technology makes existing educational inequities worse and restricts the reach of mobile learning frameworks that are intended to improve student engagement and motivation. As a result, universities must put money into modernizing infrastructure in order to guarantee that all students, no matter where they are located, have equal access to e-learning opportunities.

The physical limits of technology infrastructure frequently lead to connectivity problems, which have a direct effect on how well video conferencing works for e-learning. Some of the difficulties that arise include frequent pauses in the network, sluggish upload and download rates, and the fact that certain devices are unable to support high-quality video streaming. As a result, students may suffer interruptions throughout online classes, which can lead to less participation and lower learning results. According to a study by Zhang et al. (2022), network instability during live online lectures frequently interrupts the learning experience, resulting

Vol. 15, No. 3, 2025, E-ISSN: 2222-6990 © 2025

in lower student involvement and memory of course material. These problems not only have an impact on student learning, but they also present difficulties for teachers who depend on technology that works without interruption in order to provide interactive and collaborative learning experiences. As a result, in order to overcome these constraints in infrastructure, it is necessary to make ongoing investments in both hardware and software solutions. This will guarantee that video conferencing tools can work at their best in a variety of situations, which will improve the entire experience of e-learning.

Infrastructure restrictions are also a major factor in the limitations of educational content delivery. Due to a lack of sufficient technology and software infrastructure, many institutions in developing regions have trouble providing rich multimedia content, such as high-definition movies, interactive simulations, or live demonstrations. This limitation affects the capacity to provide a learning experience that is both dynamic and engaging, particularly in complicated areas that require visual assistance or hands-on participation, such as Internet of Things (IoT) applications. Huang and Xie (2021) state that when infrastructure gaps prevent the delivery of certain types of information, student pleasure and engagement decrease. Students in these environments frequently depend on gadgets that are either old or lack sufficient power. This makes it challenging for them to take part in interactive learning activities or to access multimedia resources that are essential for their comprehension of the subject matter. As a result, it is essential to solve the infrastructure gap in order to create a more engaging and inclusive learning environment that can support a variety of modern instructional content.

The environmental consequences of maintaining and extending digital infrastructure is one of the most urgent problems that is connected to the limitations of infrastructure. The increasing need for data centers, cloud storage, and internet bandwidth has led to worries about energy consumption and the sustainability of the environment. As educational institutions become more dependent on digital platforms for learning, it is important to find a way to expand these platforms while still being mindful of the environment. According to research conducted by Tan et al. (2020), the rapid expansion of digital infrastructure in education is a substantial contributor to the global carbon footprint, particularly in areas where fossil fuels are the primary source of energy generation. Furthermore, the carbon footprint associated with maintaining and updating technology infrastructure presents substantial hurdles for higher education institutions that are trying to meet sustainability targets. As a result, universities need to come up with plans to make sure that their digital transformation initiatives are in line with sustainable environmental practices. This is in addition to addressing infrastructure deficiencies. These plans will help ensure the long-term health of both the education industry and the globe.

Finally, the difficulty of infrastructure limits in e-learning also includes the requirement for continual maintenance and updates to keep pace with technological improvements. Because of the rapid pace of technological advancement, infrastructure that was once considered state-of-the-art can swiftly become outdated. Because of this quick obsolescence, there is a need for ongoing investment in the upgrading and maintenance of hardware and software in order to meet the changing needs of students and educators. According to a recent study by Lin & Gao (2024), many higher education institutions, particularly those with limited budgets, face a significant problem due to the absence of frequent infrastructure

modifications. Institutions that do not invest in regular upgrades risk falling behind in terms of providing high-quality e-learning experiences, which can lead to lower competitiveness in the global educational market. As a result, institutions must take a proactive approach to managing their infrastructure. This means that they must ensure that their technology resources are current and equipped to meet the increasing needs of modern education.

Conceptual Framework

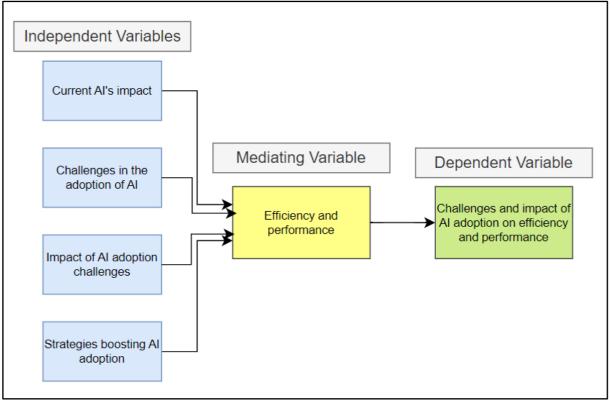


Figure 1: Conceptual framework Source: (Created by the researchers)

Theoretical Framework

DOI Theory

New technologies, such as AI, are accepted and spread throughout a community or organisation, and the Diffusion of Innovation (DOI) hypothesis by Everett Rogers gives a framework for understanding this process (du Plessis & Smuts, 2021). The application of this theory to the deployment of AI in China's public service sectors is discussed. Government agencies and departments in China that see the value in using AI to improve service delivery are likely to be the sector's early adopters and innovators. They see value in piloting and testing AI software and are prepared to allocate money towards testing and piloting AI applications. More departments in the government will certainly use AI as time goes on. If AI solutions have been shown to increase efficiency, openness, and public happiness, they may attract the early majority. Successful pilot programmes may be expanded to additional divisions at this stage. Due to budget limitations or concerns about the maturity of the technology, some organisations may be more hesitant to employ AI. As per Attié & Meyer-Waarden (2022), the late majority and laggards are unlikely to fully adopt AI at first, but this is expected to change as the technology becomes more well-established and proven in a variety of applications.

Vol. 15, No. 3, 2025, E-ISSN: 2222-6990 © 2025

Cost-Benefit Analysis Theory

A cost-benefit analysis (CBA) compares the monetary costs and benefits of an endeavour to determine its overall value to the economy. Several crucial factors must be taken into account when discussing the function of AI in China's public service sectors. Investing in hardware, software, and employee education is necessary to introduce AI into government service delivery. This involves purchasing AI technologies, incorporating them into existing infrastructure, and educating government employees. As per Ghanem et al. (2018), the government must consider the expenditures involved here against any possible returns. Chatbots and virtual assistants are only two examples of the kinds of work that may be automated by AI. As a result, public service organisations become more effective and productive. Reduced labour hours and more effective use of resources are two ways in which this efficiency boost saves money.

Methodology

For this study, an exploratory research strategy was chosen. Exploratory research is a kind of research design that looks into a subject that is relatively unknown or poorly understood, offering insights and producing theories for more study (Casula et al., 2021). The flexibility and open-ended nature of this technique enable the researchers to go further into the study issue and discover new areas of interest. Exploratory research is considered ideal in the context of AI deployment in China's public services since it permits the investigation of current trends, difficulties, and impacts without the need for preexisting concepts or hypotheses. The type of research questions and the intricacy of the subject matter influence the decision to do exploratory research (Gerlings et al., 2022). The goal of the research is to comprehend the many facets of AI adoption in China's public services, which include employment, education, healthcare, and agriculture. Since the use of AI in public services is a dynamic and ever-changing phenomenon, exploratory research offers the freedom to look at a variety of angles and find new trends. It makes it possible for the research to find fresh insights and adjust to the shifting terrain of AI adoption (Weber & Schütte 2019).

The need for thorough and nuanced insights into the current trends, obstacles, and effects of AI adoption in China's public services led to the selection of surveys and interviews as the data-gathering tools for this project. Every tool contributes its special qualities to a comprehensive knowledge of the intricate dynamics underlying the adoption of AI (Dwivedi et al., 2021).

The statistical analysis of quantitative data from surveys using SPSS (Statistical Package for the Social Sciences) and thematic analysis of qualitative data from interviews will be combined in this study's data analysis. A thorough examination of the current trends, difficulties, and effects of AI deployment in China's public sector is ensured by this mixed-methods approach (Zuiderwijk et al., 2021). A popular statistical program that makes it easier to analyze quantitative data is called SPSS. Researchers can find patterns, correlations, and trends in the numerical data gathered from surveys by using SPSS's descriptive statistics, inferential statistics, and other analytical tools (Mukasa et al., 2021). This program is very helpful in determining correlations between variables, testing hypotheses based on survey data, and looking at the frequency of various attitudes.

Vol. 15, No. 3, 2025, E-ISSN: 2222-6990 © 2025

200 surveys were used in the study's quantitative phase, which illustrates a practical strategy for reaching statistical reliability while taking resource limitations into account. Larger sample sizes are typically sought in quantitative research to improve estimate precision and raise the possibility of finding important patterns or correlations in the data (Rogers et al., 2020). A sample size of 200 provides a good mix between the practical constraints of time and money and statistical rigour, particularly in a study involving a dynamic and diversified population such as China's public services.

Results

Quantitative Analysis

| Question | Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------------------------------------|----------------------------|-----------|---------|------------------|-----------------------|
| Has AI adoption improved the | Agree | 32 | 16.0 | 16.0 | 16.0 |
| efficiency of public service | Disagree | 43 | 21.5 | 21.5 | 37.5 |
| delivery in China? | Neutral | 34 | 17.0 | 17.0 | 54.5 |
| | Strongly Agree | 37 | 18.5 | 18.5 | 73.0 |
| | Strongly Disagree | 54 | 27.0 | 27.0 | 100.0 |
| Has AI adoption resulted in | Agree | 39 | 19.5 | 19.5 | 19.5 |
| improved citizen satisfaction | Disagree | 41 | 20.5 | 20.5 | 40.0 |
| levels? | Neutral | 43 | 21.5 | 21.5 | 61.5 |
| | Strongly Agree | 41 | 20.5 | 20.5 | 82.0 |
| | Strongly Disagree | 36 | 18.0 | 18.0 | 100.0 |
| To what extent do you think | Effective | 42 | 21.0 | 21.0 | 21.0 |
| AI applications have | Ineffective | 40 | 20.0 | 20.0 | 41.0 |
| improved the convenience | Neutral | 37 | 18.5 | 18.5 | 59.5 |
| and personalization of services? | Not Effective at All | 40 | 20.0 | 20.0 | 79.5 |
| | Very Effective | 41 | 20.5 | 20.5 | 100.0 |

The data delves into how the Chinese government views AI implementation, with an emphasis on how it would affect productivity, happiness among the populace, and the ease and customization of service delivery. A range of perspectives, including hope and doubt over the efficacy of AI integration, are reflected in the replies.

There is noticeable split in the responses when asked if the use of AI has made public service delivery more efficient. With 27% (54 people) strongly disagreeing, there is a lot of doubt regarding AI's efficiency gains. Then there are the 21.5 percent (or 43 people) who are in disagreement. In contrast, a smaller but significant portion of the participants (18.5%, or 37 people) strongly agree and 16%, or 32 people, agree, indicating a favorable opinion. There seems to be some ambiguity or absence of concrete data regarding the effects, since 17% of respondents (34 people) gave neutral answers. More people in the distribution are skeptical about the efficiency benefits of AI adoption than are positive about it, indicating a mixed viewpoint.

The results are more evenly split when we question if the deployment of AI has increased citizen contentment. The biggest group, consisting of 21.5% or 43 respondents, is still indifferent, suggesting that they have mixed feelings or are unsure about this result. A sizeable percentage identifies gains in citizen satisfaction, with 19.5% (39 participants) and 20.5% (41 individuals) indicating agreement and strong agreement, respectively. Nevertheless, a significant portion of respondents still harbors skepticism, as 20.5% (41 participants) disagree and 18% (36 participants) strongly disagree. According to these results, some people are still not convinced that AI has improved citizen pleasure, and others have not seen any changes either.

The third inquiry delves into how far AI has come in making public services more personalized and user-friendly. A fairly even split exists between those who think AI applications are effective (21%, or 42 people) and those who think they are very effective (20.5%, or 41 people). On the flip side, a significant amount of discontent is evident from the 20% (40 respondents) who evaluate AI as completely ineffective and an equal number who consider it to be ineffective. The 18.5% of participants who gave neutral responses (37 people in total) may be ambivalent about or have had little experience with AI-driven personalization initiatives. Some respondents saw substantial improvements, while others saw little to no change, illustrating the broad range of perspectives shown by these results.

Qualitative Analysis

Theme 1: Delayed Implementation and Service Inefficiencies

Significant delays in project implementation have resulted from the difficulties connected with AI adoption, which has led to inefficiencies in the delivery of public services. Inadequate infrastructure, limited finance, and an absence of qualified workers are some of the factors that delay project progress. Not only do these holdups cause public services to fall behind in serving the requirements of citizens, but they also squander resources. Ineffective AI adoption forces departments to rely on antiquated technology, which slows down their response times and makes them less productive overall.

Participant 3 remarked, "We've had an AI project in the pipeline for two years, but we still don't have the infrastructure or expertise to get it running. It's frustrating because we know it could improve our services." This highlights how delays in implementation can lead to stagnation and missed opportunities for efficiency gains.

The lack of synchronization across different public service departments also exacerbates inefficiencies. Departments with varying levels of AI adoption struggle to coordinate efforts, resulting in fragmented services. For example, while some sectors benefit from advanced AI systems, others lag behind, creating inconsistencies in service quality and delivery times.

Participant 1 shared, "Our department is ready to implement AI, but we can't move forward because other teams we work with don't have the necessary resources or systems in place." This emphasizes the need for a coordinated approach to AI adoption to minimize inefficiencies.

Such delays also affect public perception, as citizens expect modern, responsive services. When public service delivery fails to meet these expectations, trust in government initiatives

diminishes. Participants noted that without visible progress in AI adoption, citizens grow skeptical about the promises of improved efficiency.

Participant 4 observed, "People expect quick, AI-powered solutions, but when they see delays and the same old systems, they lose confidence in our ability to deliver." This shows how inefficiencies caused by delayed implementation directly impact public trust and satisfaction. Overcoming these challenges requires strategic planning, consistent funding, and a unified approach to implementation. Addressing these inefficiencies will enable public services to meet citizen expectations and improve overall performance in a timely manner.

Theme 2: Unequal Access to Improved Services

There is a disparity in the availability of better public services due to the fact that AI adoption rates in urban and rural regions are different. Unfortunately, owing to a lack of resources and infrastructure, rural areas are unable to compete with urban centers when it comes to powerful AI systems. People living in rural areas face higher wait times and subpar service quality as a result of this inequality, which leads to inefficiency. National attempts to update public services completely are also impeded by the uneven distribution of resources.

Participant 2 noted, "In cities, people are already using AI to access quick healthcare appointments, but in rural areas, we're still relying on paper records." This highlights how rural regions are at a disadvantage, leading to significant gaps in service quality.

Participants emphasized that this inequality undermines the core purpose of public services: to provide equitable access to all citizens. The inability to implement AI uniformly across regions means that resources are not being optimized effectively, leaving rural citizens underserved while urban areas flourish.

Participant 5 shared, "AI adoption is creating a digital divide. It feels like rural areas are being left out of modernization efforts, which isn't fair." This underscores the need for targeted initiatives to bridge the gap and ensure equal access to services.

Inconsistent access to AI-driven services also impacts overall efficiency. When rural regions cannot adopt AI, it creates bottlenecks in processes that require cross-regional coordination. This lack of uniformity results in slower operations and reduced effectiveness in addressing citizen needs.

Participant 4 remarked, "We're constantly dealing with delays because some regions don't have the systems to communicate efficiently with us." This demonstrates how unequal access affects the broader public service ecosystem.

Addressing these disparities requires focused investments in rural infrastructure, targeted funding, and policies that prioritize equitable AI implementation. Ensuring that all citizens benefit from advancements in technology is essential for improving the overall efficiency of public services.

Vol. 15, No. 3, 2025, E-ISSN: 2222-6990 © 2025

Theme 3: Increased Workload for Employees

Public servants' workloads becoming heavier as a result of AI adoption hurdles, which is an unexpected outcome. Workers will have to resort to manual procedures to make up for AI systems' delays or poor performance. Not only does this cause staff fatigue and decreased productivity, but it also slows down service delivery. When inefficient processes cause employees to have extra obligations on top of their regular jobs, it can lead to feelings of overload.

Participant 1 shared, "Without a fully functioning AI system, we're doing double the work handling manual tasks while trying to troubleshoot the existing technology." This illustrates how inefficiencies in AI systems directly impact employee workloads.

Compounding the problem is the widespread lack of education and experience with AI technologies. When employees are not properly supported when working with new technologies, mistakes and wasted time are common outcomes. This sets up a feedback loop in which inefficiency increases workloads, which reduces overall performance.

Participant 3 remarked, "We were given AI tools to make our work easier, but without proper training, it's just adding to our stress." This highlights the importance of comprehensive training programs to ensure that employees can use AI systems effectively.

Additionally, inefficient AI systems can create backlogs, as employees are unable to process tasks at the expected speed. Participants noted that these backlogs not only delay services but also impact citizen satisfaction, as people grow frustrated with longer wait times and unresolved issues.

Participant 5 observed, "When AI doesn't work as intended, everything slows down, and we're left to clean up the mess manually." This demonstrates the ripple effect that inefficient AI adoption can have on employees and service delivery.

Addressing these issues requires investments in training, user-friendly AI tools, and robust support systems to ensure that employees can effectively integrate AI into their workflows. By reducing workloads and improving efficiency, public services can enhance both employee satisfaction and overall performance.

Theme 4: Reduced Public Trust in Services

Challenges associated with AI adoption, such as algorithmic bias, lack of transparency, and data privacy concerns, have led to a decline in public trust in AI-driven services. Citizens often perceive AI systems as unreliable or unfair, particularly when they experience errors or inconsistencies in service delivery. This mistrust not only affects citizen satisfaction but also undermines the overall credibility of public service initiatives.

Participant 4 remarked, "People don't trust AI because they don't understand how decisions are made. If they think it's unfair, they lose faith in the system." This highlights the importance of transparency and fairness in building public trust.

Algorithmic bias is a significant contributor to this mistrust. Participants noted instances where AI systems unintentionally favored certain groups over others, leading to perceptions of discrimination. Such cases erode confidence in the technology and create additional challenges for public service organizations.

Participant 2 shared, "We've had complaints about bias in AI systems, which makes people skeptical about using them. It's a major hurdle for us." This underscores the need for rigorous testing and monitoring to ensure fairness.

Data privacy concerns also play a critical role in reducing public trust. Citizens are often wary of sharing their personal information, fearing misuse or breaches. Without robust data protection measures, public service organizations struggle to convince citizens that their information is secure.

Participant 5 noted, "Data privacy is a huge issue. If people think their data isn't safe, they won't use AI-driven services." This emphasizes the need for strong safeguards to address privacy concerns and foster trust.

To rebuild trust, participants recommended greater transparency, regular audits, and public awareness campaigns to educate citizens about AI systems. These measures can help dispel misconceptions and demonstrate the value of AI in improving public services.

Theme 5: Missed Opportunities for Innovation and Growth

The challenges associated with AI adoption have resulted in missed opportunities to innovate and enhance public services. Departments that struggle with infrastructure, funding, or training are unable to experiment with new AI applications, limiting their ability to improve efficiency and performance. This stagnation prevents public services from keeping pace with evolving citizen needs and expectations, leading to a gap between what is possible and what is delivered.

Participant 2 shared, "We see other countries using AI to solve problems we're still struggling with, but we don't have the resources to catch up." This reflects the frustration of falling behind due to unresolved challenges.

Missed opportunities also impact the ability to address emerging issues, such as climate change or public health crises. Participants noted that AI could play a transformative role in these areas, but without proper adoption, its potential remains untapped.

Participant 4 remarked, "AI could help us predict and manage emergencies better, but we're not using it because of delays and other issues." This illustrates how challenges in AI adoption hinder innovation in critical areas.

Additionally, the inability to adopt AI effectively affects employee morale and organizational culture. Employees who see their organizations lagging in innovation often feel demotivated, which can further reduce productivity and performance.

Participant 3 observed, "When you know there's a better way to do things but can't implement *it, it's hard to stay motivated.*" This highlights the psychological impact of missed opportunities on public service employees.

Participants suggested that creating a culture of innovation, supported by targeted investments and collaborative partnerships, could help public services overcome these challenges. By addressing barriers to AI adoption, public service organizations can unlock their potential for growth and deliver enhanced services to citizens.

Conclusion

While this study's results show that AI has the ability to revolutionize public service delivery in China, they also highlight the enormous obstacles that must be overcome before this promise can be fulfilled. The discussion brings attention to the various obstacles that public service organizations face when trying to implement AI, including financial, ethical, and cultural ones. This research adds to the existing body of knowledge by shedding light on the significance of ethical governance, localized solutions, competent staff, and strong infrastructure. This chapter lays the groundwork for future research and policy development that aims to maximize the benefits of AI by merging theoretical perspectives with empirical data. The study's limitations are recognized, but it does pave the way for further research that could lead to more egalitarian, efficient, and socially responsive AI adoption in public services.

References

- Roberts, H., Cowls, J., Hine, E., Morley, J., Wang, V., Taddeo, M., & Floridi, L. (2022). Governing artificial intelligence in China and the European Union: Comparing aims and promoting ethical outcomes. The Information Society, 1–19. https://doi.org/10.1080/01972243.2022.2124565
- Roberts, H., Cowls, J., Morley, J., Taddeo, M., Wang, V., & Floridi, L. (2020). The Chinese approach to artificial intelligence: an analysis of policy, ethics, and regulation. AI & SOCIETY, 36(36). https://doi.org/10.1007/s00146-020-00992-2
- Roberts, H., Cowls, J., Morley, J., Taddeo, M., Wang, V., & Floridi, L. (2020). The Chinese approach to artificial intelligence: an analysis of policy, ethics, and regulation. AI & SOCIETY, 36(36). https://doi.org/10.1007/s00146-020-00992-2
- Rogers, G., Szomszor, M., & Adams, J. (2020). Sample size in bibliometric analysis. Scientometrics, 125(1), 777-794. https://link.springer.com/article/10.1007/S11192-020-03647-7
- Ryan, M. (2019). Ethics of using AI and big data in agriculture: The case of a large agriculture multinational. Orbit Journal, 2(2), 1-27. https://www.researchgate.net/profile/Mark-Ryan-

8/publication/333527172_Ethics_of_Using_AI_and_Big_Data_in_Agriculture_The_Cas e_of_a_Large_Agriculture_Multinational/links/5ebe4b2c458515626ca85b4d/Ethicsof-Using-AI-and-Big-Data-in-Agriculture-The-Case-of-a-Large-Agriculture-

Multinational.pdf?origin=journalDetail&_tp=eyJwYWdlIjoiam91cm5hbERldGFpbCJ9 Saldanha, D. M. F., Dias, C. N., & Guillaumon, S. (2022). Transparency and accountability in digital public services: Learning from the Brazilian cases. Government Information Quarterly, 101680. https://doi.org/10.1016/j.giq.2022.101680

Şerban, A. C., and Lytras, M. D. (2020). Artificial intelligence for smart renewable energy sector in europe—smart energy infrastructures for next generation smart cities. IEEE

Vol. 15, No. 3, 2025, E-ISSN: 2222-6990 © 2025

access,

8,

pp.77364-

77377.https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9076660

Shaheen, M. Y. (2021). Applications of Artificial Intelligence (AI) in healthcare: A review. ScienceOpen Preprints.https://www.scienceopen.com/document_file/a8536285-4c3c-47c2-8d5c-

78cf38231c76/ScienceOpenPreprint/Applications%20of%20Artificial%20Intelligence% 20%28AI%29%20in%20healthcare%20A%20review.pdf

- Sharma, G. D., Yadav, A. and Chopra, R. (2020). Artificial intelligence and effective governance: A review, critique and research agenda. Sustainable Futures, 2, p.100004.https://www.sciencedirect.com/science/article/pii/S2666188819300048
- Sircar, A., Yadav, K., Rayavarapu, K., Bist, N. and Oza, H. (2021). Application of machine learning and artificial intelligence in oil and gas industry. Petroleum Research, 6(4), pp.379-391.https://www.sciencedirect.com/science/article/pii/S2096249521000429
- Skidmore, A. (2021). Uncovering the nuances of criminal motivations and modus operandi in the Russian Far East: A wildlife crime case study. Methodological Innovations, 14(2), 20597991211022015.

https://journals.sagepub.com/doi/pdf/10.1177/20597991211022015

- Skilling, K., & Stylianides, G. J. (2020). Using vignettes in educational research: a framework for vignette construction. International Journal of Research & Method in Education, 43(5), 541-556. https://ora.ox.ac.uk/objects/uuid:021b19dd-ecdc-4975-81fc-57b5592a6d78/download_file?file_format=pdf&safe_filename=Skilling_and_Stylanide s_2019_Using_vignettes_in_educational.pdf&type_of_work=Journal+article
- Skrzypczynski, P., & Tobis, S. (2022). Eldercare Robots in the Age of AI: Are We Ready to Address the User Needs. In Proceedings of the 3rd Polish Conference on Artificial Intelligence PP-RAI (pp. 116-121). https://wydawnictwo.umg.edu.pl/pprai2022/pdfs/27_pp-rai-2022-046.pdf
- Snäckerström, T., & Johansen, C. (2019). De-identified linkage of data across separate registers: a proposal for improved protection of personal information in registry-based clinical research. Upsala Journal of Medical Sciences, 124(1), 29-32. https://www.tandfonline.com/doi/pdf/10.1080/03009734.2018.1527420
- Spencer, L., Radcliffe, L., Spence, R., & King, N. (2021). Thematic trajectory analysis: A temporal method for analysing dynamic qualitative data. Journal of Occupational and Organizational Psychology, 94(3), 531-567. https://bpspsychub.onlinelibrary.wiley.com/doi/pdf/10.1111/joop.12359

Stantcheva, S. (2023). How to run surveys: A guide to creating your own identifying variation and revealing the invisible. Annual Review of Economics, 15, 205-234. https://www.annualreviews.org/doi/pdf/10.1146/annurev-economics-091622-010157

- Strusani, D., and Houngbonon, G. V. (2019). The role of artificial intelligence in supporting development in emerging markets.https://pdfs.semanticscholar.org/59fe/0a2ce080ed757ed5d3613caab6c2185 4a2cd.pdf
- Sun, T. Q., and Medaglia, R. (2019). Mapping the challenges of Artificial Intelligence in the public sector: Evidence from public healthcare. Government Information Quarterly, 36(2), pp.368-383.https://research-

api.cbs.dk/ws/portalfiles/portal/58401014/rony_medaglia_et_al_mapping_the_challe nges_acceptedmanuscript.pdf

Vol. 15, No. 3, 2025, E-ISSN: 2222-6990 © 2025

Suveren, Y. (2022). Unconscious Bias: Definition and Significance. Psikiyatride Guncel Yaklasimlar, 14(3), 414-426.

http://www.cappsy.org/archives/vol14/no3/cap_14_03_14_en.pdf

- Taherdoost, H. (2022). Blockchain technology and artificial intelligence together: a critical review on applications. Applied Sciences, 12(24), 12948. https://www.mdpi.com/2076-3417/12/24/12948
- Tong, S., Jia, N., Luo, X. and Fang, Z. (2021). The Janus face of artificial intelligence feedback: Deployment versus disclosure effects on employee performance. Strategic Management Journal, 42(9), pp.1600-1631.https://onlinelibrary.wiley.com/doi/pdfdirect/10.1002/smj.3322
- Tschang, F. T., & Almirall, E. (2021). Artificial intelligence as augmenting automation: Implications for employment. Academy of Management Perspectives, 35(4), 642-659. https://ink.library.smu.edu.sg/cgi/viewcontent.cgi?article=7668&context=lkcsb_resear ch
- Van Leeuwen, L. M., Pronk, M., Merkus, P., Goverts, S. T., Terwee, C. B., & Kramer, S. E. (2020). Operationalization of the Brief ICF core set for hearing loss: an ICF-based e-intake tool in clinical otology and audiology practice. Ear and hearing, 41(6), 1533. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7722460/
- Van Loon, J., Woltering, L., Krupnik, T. J., Baudron, F., Boa, M., & Govaerts, B. (2020). Scaling agricultural mechanization services in smallholder farming systems: Case studies from sub-Saharan Africa, South Asia, and Latin America. Agricultural Systems, 180, 102792. https://doi.org/10.1016/j.agsy.2020.102792
- Vicini, A. (2022). Artificial intelligence and social control: ethical issues and theological resources. Journal of Moral Theology, 11(Special Issue 1), 41-69. Vicini, A. (2022). Artificial intelligence and social control: ethical issues and theological resources. Journal of Moral Theology, 11(Special Issue 1), 41-69. https://jmt.scholasticahq.com/article/34123.pdf
- Hippel, C. D., & Cann, A. B. (2021). Behavioral innovation: Pilot study and new big data analysis approach in household sector user innovation. Research Policy, 50(8),103992.
 https://www.sciencedirect.com/science/article/pii/S004873332030072X
- Vyas, S., Shabaz, M., Pandit, P., Parvathy, L.R. and Ofori, I. (2022). Integration of artificial intelligence and blockchain technology in healthcare and agriculture. Journal of Food Quality, 2022.https://www.hindawi.com/journals/jfq/2022/4228448/
- Wamba-Taguimdje, S.L., Fosso Wamba, S., Kala Kamdjoug, J. R., and Tchatchouang Wanko, C.
 E. (2020). Influence of artificial intelligence (AI) on firm performance: the business value of AI-based transformation projects. Business Process Management Journal, 26(7), pp.1893-1924.https://www.researchgate.net/profile/Kala-Kamdjoug-Jean-

Robert/publication/340210939_Influence_of_Artificial_Intelligence_AI_on_Firm_Perfo rmance_The_Business_Value_of_AI-

based_Transformation_Projects/links/5eaa905645851592d6abcf63/Influence-of-Artificial-Intelligence-AI-on-Firm-Performance-The-Business-Value-of-AI-based-Transformation-Projects.pdf

Wang, C., Teo, T.S. and Janssen, M. (2021). Public and private value creation using artificial intelligence: An empirical study of AI voice robot users in Chinese public sector. International Journal of Information Management, 61, p.102401.https://www.sciencedirect.com/science/article/abs/pii/S026840122100094 3

- Wang, C., Teo, T. S. H., & Janssen, M. (2021). Public and private value creation using artificial intelligence: An empirical study of AI voice robot users in Chinese public sector. International Journal of Information Management, 61, 102401. https://doi.org/10.1016/j.ijinfomgt.2021.102401
- Wang, C., Teo, T. S. H., & Janssen, M. (2021). Public and private value creation using artificial intelligence: An empirical study of AI voice robot users in Chinese public sector. International Journal of Information Management, 61, 102401. https://doi.org/10.1016/j.ijinfomgt.2021.102401
- Wang, J., Lu, Y., Fan, S., Hu, P., & Wang, B. (2021). How to Survive in the Age of Artificial intelligence? Exploring the Intelligent Transformations of SMEs in Central China. International Journal of Emerging Markets, 17(4), 1143–1162. https://doi.org/10.1108/ijoem-06-2021-0985
- Wang, Y., Zhang, N., & Zhao, X. (2020). Understanding the Determinants in the Different Government AI Adoption Stages: Evidence of Local Government Chatbots in China. Social Science Computer Review, 089443932098013. https://doi.org/10.1177/0894439320980132
- Ross, J., Webb, C., & Rahman, F. (2019). Artificial intelligence in healthcare. London: Academy of Medical Royal Colleges. https://pdfs.semanticscholar.org/5a63/1d0e1fd5db0cc1811ccd8c5fa50ca4afacfa.pdf
- Swedberg, R. (2020). Exploratory research. The production of knowledge: Enhancing progress in social science, 17-41. https://books.google.com/books?hl=en&lr=&id=vITMDwAAQBAJ&oi=fnd&pg=PA17&d q=Mostly+conducted+after+exploratory+research,+explanatory+research+seeks+to+of fer+a+more+thorough+explanation+of+the+phenomena+found+&ots=IUmzI1SfZo&sig =JrFfp6APpVkvqN0cZ4h4cwiGZv0
- Udemezue, J. C., & Osegbue, E. G. (2018). Theories and models of agricultural development. Annals of Reviews and Research, 1(5), 555574. https://ca.nvsu.edu.ph/elibrary/books/gs/ruraldev/RD%20201/Udemezue%20&%20Osegbue.pdf
- UNDESA. (2020). UN E-Government Survey 2020. Un.org. https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2020