Impacts of digitalization on the efficiency and quality of public services: A comprehensive analysis

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ABSTRACT

Digitalization has profoundly transformed the way public services are outsourced, bringing both significant opportunities and complex challenges for the management and quality of these services. Emerging technologies, such as Robotic Process Automation (RPA) and Artificial Intelligence (AI), have enhanced the efficiency of outsourcing processes by optimizing administrative and operational tasks, reducing costs, and speeding up execution. These innovations also improve system integration and communication between public agencies and their suppliers, promoting more effective coordination and minimizing operational errors. However, the implementation of new technologies requires substantial investments in infrastructure and training, which can be a challenge for public organizations with limited budgets. Additionally, transitioning to digital systems may face cultural and organizational resistance, particularly in contexts where job stability is highly valued. Ensuring the quality of outsourced services is crucial, and in this regard, digitalization enables real-time data collection and analysis, allowing for the monitoring of supplier performance and the maintenance of quality standards. This, however, necessitates the implementation of robust evaluation systems and the capability to manage large volumes of data effectively. Recent studies, including those by Fischer, Heuberger, and Heine (2021), Brdesee (2021), Syamsiar (2023), Shashyna et al. (2023), Alvarenga et al. (2020), Noor (2022), and Kim, Kim, and Choi (2020), highlight the significance of digitalization in enhancing public service efficiency and the need for more interdisciplinary research to understand its varied impacts. Digitalization not only improves the quality and efficiency of public services but also presents challenges that need to be managed to ensure successful and sustainable implementation.

Keywords: Digitalization, Public service, Efficiency emerging technologies, Data management, Service outsourcing.

Impacts of digitalization on the efficiency and quality of public services: A comprehensive analysis
LUMEN ET VIRTUS, São José dos Pinhais, V. XV N. XL, p.4409-4414, 2024

4409

INTRODUCTION

Digitalization has significantly reshaped the outsourcing of public services, presenting both substantial opportunities and challenges for service management and quality. The integration of technologies like Robotic Process Automation (RPA) and Artificial Intelligence (AI) has enhanced the efficiency of outsourcing processes by streamlining administrative and operational tasks. These advancements facilitate more agile management, cost reduction, and faster execution. Additionally, digital tools improve system integration and communication between public agencies and their suppliers, leading to better coordination and fewer operational errors.
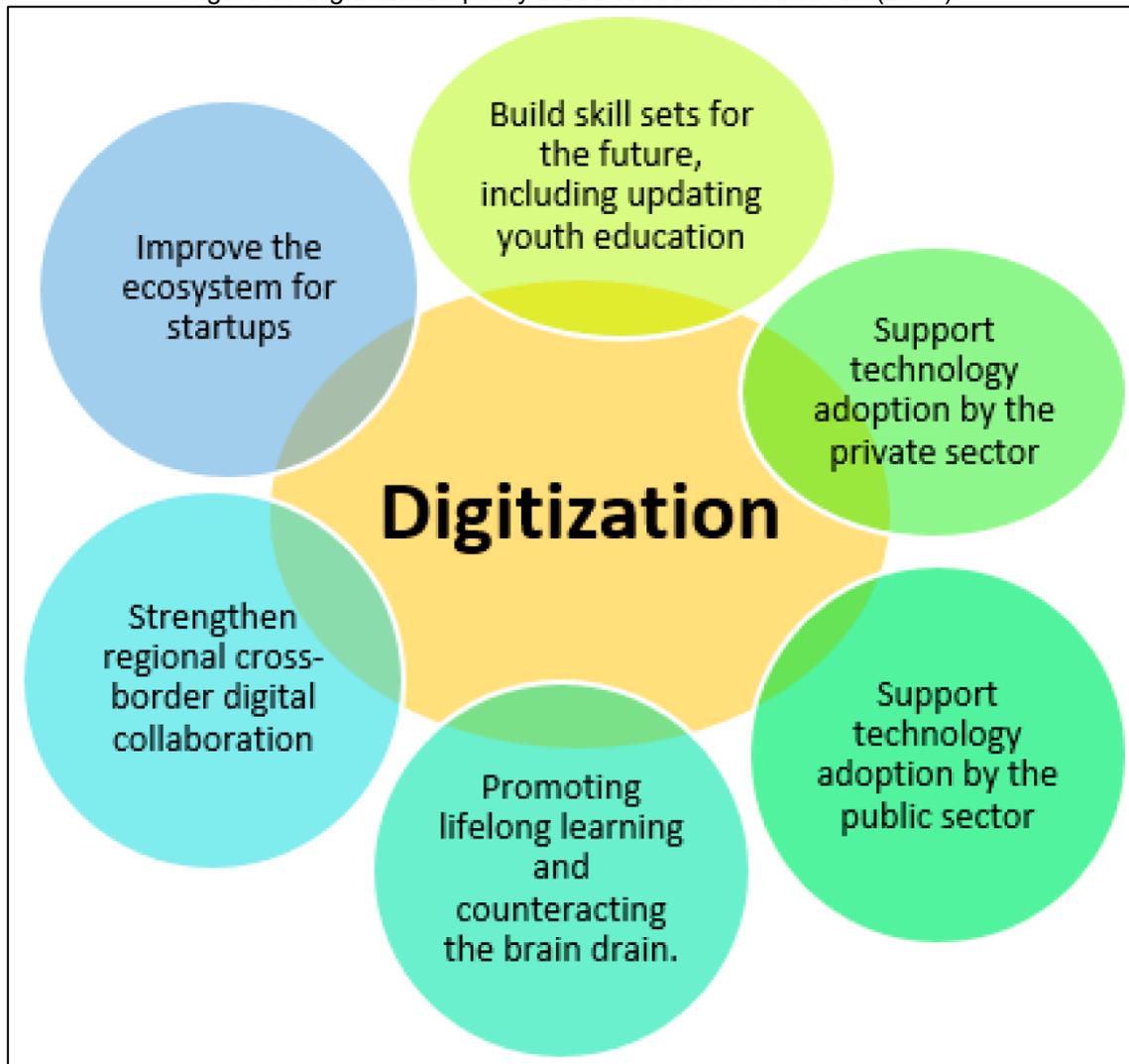
DEVELOPMENT

Nevertheless, digitalization introduces notable challenges. The adoption of new technologies requires substantial investment in infrastructure and training, which can be particularly challenging for public organizations with constrained budgets. Moreover, transitioning to digital systems can face cultural and organizational resistance, especially in environments that highly value job stability.

REVIEW OF STUDIES

Quality assurance of outsourced services is another critical aspect. Digitalization allows for real-time data collection and analysis, which is essential for monitoring supplier performance and maintaining quality standards. This, however, necessitates the implementation of robust evaluation systems and the capability to manage large data volumes effectively.

Impacts of digitalization on the efficiency and quality of public services: A comprehensive analysis
LUMEN ET VIRTUS, São José dos Pinhais, V. XV N. XL, p.4409-4414, 2024

4410

Source: Trașcă et al. (2019).

The study by Fischer, Heuberger, and Heine (2021) provides insights into the advancing digitalization of public administration through a comprehensive literature review. Their bibliometric analysis highlights that research is predominantly concentrated in the US and China, with a focus on Computer Science and citizen services. The study emphasizes the need for more interdisciplinary research to fully understand the diverse impacts of digitalization in the public sector and suggests a closer integration of various impact dimensions.

Brdesee (2021) investigates the impact of digital transformation on university efficiency, with a focus on a Saudi University's e-services. The research underlines that digital transformation is crucial for achieving global academic excellence and improving organizational efficiency. The case study and statistical analysis reveal that increased subject withdrawals negatively affect both spending and efficiency.

Syamsiar (2023) explores how digitalization enhances the effectiveness of public services in Indonesia. Through qualitative research involving interviews with government

Impacts of digitalization on the efficiency and quality of public services: A comprehensive analysis
LUMEN ET VIRTUS, São José dos Pinhais, V. XV N. XL, p.4409-4414, 2024

4411

officials, experts, and public service users, the study finds that digitalization significantly improves service quality and responsiveness, though it also highlights challenges and opportunities in implementing digital solutions.

Shashyna et al. (2023) examine how EU membership influences public service efficiency, particularly through digitization. The study uses regression models to analyze public administration models in Eastern Europe, demonstrating that EU accession positively impacts service efficiency and facilitates technology transfer.

Alvarenga et al. (2020) focus on the critical role of digitization in public services, analyzing digital transformation and its connection to knowledge management. The research finds that successful digital government initiatives are closely tied to effective knowledge management, suggesting a need for more research in this area.

Noor (2022) investigates the effect of e-service quality on user loyalty among 250 users of public service websites in Indonesia. Using Structural Equation Modeling, the study shows that high e-service quality enhances user satisfaction and loyalty, stressing the importance of improving e-government services.

Lastly, Kim, Kim, and Choi (2020) analyze service efficiency among 847 public libraries in Korea, categorized by their establishment and outsourcing models. The study reveals that libraries managed by local governments are more efficient and that outsourcing operations can further improve efficiency. The findings provide valuable insights for enhancing public library services based on foundational and operational factors.

CONCLUSION

Digitalization has had a profound impact on the outsourcing of public services, offering both significant opportunities and complex challenges for the management and quality of these services. The integration of technologies such as Robotic Process Automation (RPA) and Artificial Intelligence (AI) has enhanced the efficiency of outsourcing processes by making administrative and operational tasks more agile and cost-effective. These advancements not only facilitate management and reduce costs but also improve system integration and communication between public agencies and their suppliers, leading to better coordination and fewer operational errors.

However, digitalization also presents important challenges. Adopting these new technologies requires substantial investment in infrastructure and training, which can be a barrier for public organizations with limited budgets. Additionally, transitioning to digital systems may face cultural and organizational resistance, particularly in contexts where job stability is highly valued.

Impacts of digitalization on the efficiency and quality of public services: A comprehensive analysis
LUMEN ET VIRTUS, São José dos Pinhais, V. XV N. XL, p.4409-4414, 2024

4412

Ensuring the quality of outsourced services is another critical issue. Digitalization enables real-time data collection and analysis, which is essential for monitoring supplier performance and maintaining quality standards. This requires the implementation of robust evaluation systems and the capability to effectively manage large volumes of data.

The reviewed studies provide a comprehensive view of the impacts of digitalization. Fischer, Heuberger, and Heine (2021) highlight the need for more interdisciplinary research to fully understand the diverse impacts of digitalization in the public sector. Brdesee (2021) demonstrates that digital transformation is crucial for organizational efficiency in universities. Syamsiar (2023) reveals how digitalization improves the quality of public services in Indonesia, while Shashyna et al. (2023) show the positive impact of EU membership on public service efficiency. Alvarenga et al. (2020) link the success of digital initiatives to knowledge management, and Noor (2022) emphasizes the importance of e-service quality for user loyalty. Finally, Kim, Kim, and Choi (2020) provide guidelines for enhancing public library services based on different management and outsourcing models. Together, these studies underline the importance of a well-managed and integrated approach to implementing digitalization in public services, highlighting both the benefits and the challenges of this transformation.

Impacts of digitalization on the efficiency and quality of public services: A comprehensive analysis
LUMEN ET VIRTUS, São José dos Pinhais, V. XV N. XL, p.4409-4414, 2024

4413

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Impacts of digitalization on the efficiency and quality of public services: A comprehensive analysis
LUMEN ET VIRTUS, São José dos Pinhais, V. XV N. XL, p.4409-4414, 2024

4414