

Tackling the E-Commerce Frontier: Navigating Public Service Challenges Amidst the Pandemic

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Abstract

The COVID-19 pandemic has brought significant challenges to public services, including limitations on face-to-face interactions. As a result, e-commerce has emerged as a potential solution to provide public services online. This study aims to identify the challenges and variables in implementing e-commerce for public services during the pandemic in Indonesia. The study uses a literature review method, which includes collecting data through documentation and online data tracking. The data collected were analyzed to identify the challenges and variables in implementing e-commerce for public services during the pandemic. The study found that the challenges in implementing e-commerce for public services during the pandemic in Indonesia include technical issues, lack of infrastructure, limited citizen support, and legal regulations. The variables that affect the implementation of e-commerce for public services include quality of service, efficiency, and adequate infrastructure. The implementation of e-commerce for public services during the pandemic in Indonesia faces various challenges and requires improvements in quality of service, efficiency, and infrastructure. The study suggests that the government and e-commerce marketplaces should work together to address these challenges and improve the implementation of e-commerce for public services.

Keywords: *Challenges, E-commerce, Public services, Pandemic.*

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A. INTRODUCTION

The COVID-19 pandemic has brought significant challenges to public services, including limitations on face-to-face interactions (Lim & Lee, 2021; Lin & Shek, 2021). As a result, e-commerce has emerged as a potential solution to provide public services online. However, the implementation of e-commerce for public services in Indonesia still faces various challenges, such as technical issues, lack of infrastructure, and limited citizen support (Adnan et al., 2021). This study aims to identify the challenges and variables in implementing e-commerce for public services during the pandemic in Indonesia. In an ideal situation, public services should be accessible, efficient, and effective for all citizens. However, the pandemic has disrupted the traditional way of providing public services, and the need for digitalization has become more urgent. E-commerce can provide a solution to this problem by offering a platform for public services to be delivered online (Alkhalifah et al., 2022). However, the implementation of e-commerce for public services in Indonesia still faces various challenges.

E-commerce refers to the buying and selling of goods and services online. It has become increasingly popular in recent years, with the rise of online marketplaces such as Tokopedia and Shopee. E-commerce offers many benefits, such as convenience, accessibility, and a wider range of products. The ease of browsing through virtual

shelves and making purchases from the comfort of one's home has revolutionized the way people shop. In addition to the global advantages, e-commerce has also become an integral part of the Indonesian economy. The e-commerce market in Indonesia is poised for significant growth, with projections indicating that it will reach an impressive \$124 billion by 2025. Hobbis & Hobbis, (2022) states, this exponential rise can be attributed to the increasing internet penetration and smartphone usage across the archipelago, making online shopping more accessible to a broader audience. As a result, local businesses are capitalizing on this digital shift to expand their reach and tap into a burgeoning market.

The COVID-19 pandemic has had a significant impact on the global economy, including the e-commerce industry. Nanda et al., (2021) studies shows that the pandemic has forced many businesses to close their physical stores and move their operations online. Pandemic has brought about significant transformations in the business landscape, compelling numerous enterprises to shutter their brick-and-mortar establishments and pivot towards online platforms. This seismic shift is underscored by the heightened reliance on e-commerce services, triggered by a necessity to uphold safety measures and minimize physical interactions. The closure of physical stores has, in turn, fueled a remarkable surge in the demand for online retail services. This trend is reflective of consumers' increasing inclination towards virtual shopping experiences as a means of circumventing the risks associated with in-person transactions (Roggeveen & Sethuraman, 2020). As evidenced by prior research, this paradigm shift has not only reshaped the operational strategies of businesses but has also accentuated the pivotal role that e-commerce plays in meeting evolving consumer preferences during challenging times.

Public services refer to the services provided by the government to its citizens, such as healthcare, education, and transportation. The pandemic has disrupted the traditional way of providing public services, and the need for digitalization has become more urgent (Lapuente & Van de Walle, 2020; Zhang, 2020). The global pandemic has significantly disrupted the conventional approach to delivering public services, highlighting an urgent demand for digitalization. This transformation is crucial for ensuring the continued accessibility of essential services. E-commerce emerges as a potential solution to address this challenge, providing a versatile platform for the online delivery of public services (Chawla & Kumar, 2021). Despite its promise, the implementation of e-commerce for public services in Indonesia encounters a myriad of obstacles. Technical issues, inadequate infrastructure, and limited citizen support stand as formidable barriers, hindering the seamless integration of e-commerce into the public service sector. This observation aligns with Kadarisman et al., (2022) research, emphasizing the need for strategic solutions to overcome these challenges and unlock the full potential of digitalization in enhancing public service delivery in Indonesia.

This study lies in its focus on the challenges and variables in implementing e-commerce for public services during the COVID-19 pandemic in Indonesia. While Santoso, (2022) research has explored the general growth and impact of e-commerce

in Indonesia, there is a gap in the literature regarding the specific challenges and variables related to the implementation of e-commerce for public services during the pandemic. By addressing this gap, the current study aims to provide valuable insights into the unique challenges faced by e-commerce platforms and the public sector in adapting to the new digital landscape. Previous studies have primarily focused on the general trends and market dynamics of e-commerce in Indonesia, highlighting its rapid growth and economic significance. While these studies provide valuable context, they do not specifically delve into the intricacies of implementing e-commerce for public services, especially in the context of a global health crisis. Therefore, this study seeks to build upon the existing literature by offering a detailed analysis of the challenges and variables specific to the integration of e-commerce into public service delivery during the pandemic. Moreover, while previous studies have highlighted the potential of e-commerce to transform various sectors of the economy, there is limited research specifically addressing the challenges and variables in implementing e-commerce for public services during a pandemic.

This study seeks to fill this gap by providing a nuanced understanding of the obstacles and opportunities that emerge when e-commerce is utilized as a platform for public service delivery during a global health crisis. Several limitations for this study, such as the limited scope of the literature review and the lack of primary data. However, the study provides valuable insights into the challenges and variables in implementing e-commerce for public services during the pandemic in Indonesia. The study can be used as a reference for policymakers and e-commerce marketplaces to improve the implementation of e-commerce for public services. The study also contributes to the existing literature on e-commerce and public services, providing a better understanding of the challenges and opportunities in this field.

B. METHOD

This study employs a qualitative research design, specifically a literature review. The qualitative approach allows for a comprehensive analysis of existing literature on the challenges and variables in implementing e-commerce for public services during the COVID-19 pandemic in Indonesia. The literature review method involves collecting and analyzing secondary data from various sources, such as academic journals, books, and online databases. The qualitative nature of the research design enables a deep exploration of the complexities and nuances of the challenges and variables associated with the integration of e-commerce into public service delivery during a crisis situation. The data collection techniques used in this study are documentation and online data searching. This techniques involves collecting data related to the challenges and variables in implementing e-commerce for public services during the pandemic from various sources, such as academic journals, books, and online databases. The data analysis technique used in this study is content analysis. Content analysis involves analyzing the collected data to identify patterns, themes, and trends related to the challenges and variables in implementing e-commerce for public services during the COVID-19 pandemic in Indonesia. The

analysis will be conducted using a systematic approach to ensure the accuracy and reliability of the findings.

C. RESULTS AND DISCUSSION

Bureaucracy was established as an effort to implement administration in public service, aiming to facilitate public access to various services and protection. However, the COVID-19 pandemic disrupted these services. While the public has the right to continue receiving services, the conventional office activities may contribute to the further escalation of the pandemic. Therefore, a transformation in public service is imperative. Presently, the government has taken steps to issue emergency policies to boost the economy in Indonesia and ensure the continuity of governance, including providing public services online. Based on Ed-Dafali et al., (2023) studies, that embracing the 4.0 Industrial Revolution, organizations need to undertake continuous improvements to enhance competitiveness and pursue competitive advantages. This shift aligns with the definition of public service as stated in Article 1, Number 1 of the Public Service Law Number 25 of 2009, which defines “public service as activities or a series of activities to fulfill the needs of services in accordance with regulations for citizens, residents, or goods, services, and administrative services provided by public service providers”. The designated public service providers include any state administrative institution, corporation, independent institution established by law for public service activities, and other legal entities developed solely for public service activities. This evolution in public service is crucial, building upon previous research to adapt to the challenges posed by the pandemic and the demands of the Fourth Industrial Revolution.

In the context of public service, the focus lies on addressing needs related to the public interest. This involves providing comprehensive essential services in accordance with established regulations to benefit the populace. Public service functions as a government-built system aimed at serving the people. The integration of information technology with societal needs is crucial as technology advances and its usage becomes more widespread. The speed of service delivery is a key concern for the public, and the government can play a facilitating role in all these service aspects. Meeting the demands for fast and efficient services, Engkus et al., (2023) emphasizes the critical role of government-developed information technology in providing satisfactory services to the public. In the modern era, the internet has become an indispensable necessity, making the inclusion of online public services imperative. Pregowska et al., (2021) states, that the use of technology in public service is particularly essential during the current pandemic, where virtually all activities are conducted online. The implementation of technology will also influence the nature of services offered, as public services should be accessible online through information technology platforms. This ensures that public services are delivered quickly, accurately, efficiently, and cost-effectively. An advantage arising from technological progress is the advent of e-commerce, eliminating the need for people to queue at General Service Outlets; they can make payments through e-commerce, completing

their obligations effortlessly. This underscores the significance of technology in public service, aligning with the insights from previous research, such as that presented by Engkus et al., (2023).

In recent years, e-commerce has experienced rapid growth in Indonesia with platforms such as Tokopedia and Shopee dominating the market. Each e-commerce company employs distinct strategies to capture the Indonesian market. According to Dewi & Lusikooy, (2024), The evolution of the e-commerce landscape in Indonesia can be attributed to several underlying factors, notably the rapid population growth and technological advancements in the digital era. This significant development is influenced by factors such as the increasing population, where Setiawan et al., (2020) studies show the current population growth stands as the major driver of e-commerce adoption in Indonesia, shifting offline shopping activities to online platforms. The surge in smartphone users in Indonesia, with 89% of the population utilizing smartphones since 2020, is driven by the necessity during the pandemic, requiring online schooling and access to digital learning tools like smartphones and laptops. The concurrent rise in internet users, primarily via smartphones, has contributed to a substantial increase in online transactions on marketplaces, with around 75% dominated by smartphone users compared to laptop or PC users. Moreover, the escalating use of social media has become a pivotal factor, influencing e-commerce transactions. The substantial increase in social media users in Indonesia, with 122 million on Facebook and ranking fourth globally in Instagram users, has greatly impacted the trajectory of e-commerce in the country (Aji et al., 2020). Additionally, the burgeoning fintech sector has played a crucial role in the rapid growth of Indonesian e-commerce. In 2018, around 66% of the Indonesian population lacked a bank account, but the emergence of numerous e-commerce platforms has led to an increase in non-cash transactions. Bank Indonesia data from 2020 reveals a surge in non-cash transactions from IDR 47.19 trillion to IDR 125.95 trillion, demonstrating that the development of electronic money has supported the growth of the digital economy in Indonesia.

Indonesia has emerged as the largest e-commerce market in Southeast Asia, with 90% of the country's internet users engaging in online shopping, according to Sirclo, WeareSocial, and Hootsuite. Al-Khalidi Al-Maliki, (2021) added, that the aggressive growth of the e-commerce sector is fueled by factors such as a significant increase in the middle class, rising internet penetration, advancements in financial technology, foreign investments, and businesses fortifying their online presence. The flourishing market offers substantial opportunities for manufacturers to align their products with consumer trends and leverage effective marketing strategies, including viral content, influential brand ambassadors, and attractive discounts. Dewi & Lusikooy, (2024) states, this thriving e-commerce landscape in Indonesia aligns with previous research on market dynamics and consumer behavior.



Figure 1. Promo on the Tokopedia Application

The rapid growth of e-commerce in Indonesia as shown on Figure 1, has led to intense competition among e-commerce platforms to create and introduce user-friendly online transaction concepts for shopping and public services. Currently, the two largest marketplaces in Indonesia are Tokopedia and Shopee, both being the most popular. According to data from iPrice in the second quarter (Q2) of 2021, Tokopedia had the highest monthly web visitors, totaling an average of 147,790,000, followed by Shopee with 126,996,700. One of the reasons for their popularity is their effective marketing strategies, easy access to platforms offering a variety of online shopping and public service needs with convenient payment options, user-friendly applications or layout designs, and enticing discounts or promotions. This trend aligns with Al Tamer, (2021) research highlighting the significance of marketing strategies and user-friendly features in attracting and retaining e-commerce users.



Figure 2. Public Services on the Tokopedia Application



Figure 3. Public Services on the Shopee Application

Both e-commerce platforms mentioned above offer comprehensive online public services with fast payment options and enticing promotions. However, continuous innovation is crucial for both platforms to enhance accessibility and convenience, ensuring sustained public interest. In the current pandemic era, online-related services play a pivotal role in enhancing user effectiveness. Referring to Figures 2 and 3 depicting public services in Tokopedia and Shopee applications, it is evident that these platforms need to adapt and improve continuously, aligning with previous research findings.

E-Commerce Challenges

The advent of the Fourth Industrial Revolution has spurred innovations in e-commerce worldwide. Adapting to these advancements poses a significant challenge, requiring strategic planning to overcome various obstacles. Surbakti et al., (2023) explain, in Indonesia, the current landscape presents five challenges in digital economic investment, as identified by the Indonesian Investment Coordinating Board (BKPM). Firstly, cybersecurity remains a primary concern for e-commerce globally, including Indonesia, a burgeoning nation with substantial online transaction growth. The government must establish a high-level internet security system to safeguard digital transactions and investments. Secondly, intensifying market competition fosters a more friendly market atmosphere but demands a synergistic approach between private enterprises and the government to empower local products against foreign entrants. Thirdly, the development of human resources becomes a subsequent challenge, particularly in Indonesia and Southeast Asia, where human resources pose a significant hurdle. Addressing this requires a long-term commitment to public education and adapting educational systems to stay competitive in the digital economy. Fourthly, adequate internet access availability is as crucial as human resource development, focusing on infrastructure. The reliable availability of internet networks throughout Indonesia affects the e-commerce landscape, with current concentration in major islands, leaving other regions with minimal connectivity.

Future internet network development programs are likely to drive economic growth. Lastly, regulatory frameworks lagging behind technological advancements present a challenge. Governments need to be vigilant in crafting legislation to regulate the national digital economy, aiming to protect the rights of digital economic players and consumers for a constructive future. Melinda et al., (2023) states, that despite persistent challenges, Indonesian e-commerce remains a favored business, with ongoing improvements and advancements indicating sustained growth. Continuous investments will aid stakeholders in overcoming digital industry challenges in Indonesia.

ACKNOWLEDGEMENT

The researcher would like to thank all parties who have helped complete this research, which the researcher cannot mention one by one.

D. CONCLUSION

This research has shed light on the challenges and opportunities in implementing e-commerce for public services during the COVID-19 pandemic in Indonesia. The study has identified key obstacles such as cybersecurity concerns, market competition, human resource development, internet access availability, and regulatory frameworks. Additionally, it has highlighted the need for continuous innovation and adaptation in e-commerce platforms to enhance accessibility and convenience, especially in the current pandemic era. The research has also emphasized the potential for e-commerce to revolutionize public service delivery and contribute to the growth of the Indonesian digital economy. Furthermore, the study's contribution lies in providing valuable insights into the challenges and variables associated with the integration of e-commerce into public service delivery during a crisis situation. It serves as a reference for policymakers and e-commerce marketplaces to improve the implementation of e-commerce for public services. Additionally, the research adds to the existing literature on e-commerce and public services, offering a better understanding of the challenges and opportunities in this field. The implications of this study extend to the need for strategic planning to overcome obstacles, continuous investments to aid stakeholders in overcoming digital industry challenges, and the importance of crafting legislation to regulate the national digital economy for a constructive future.

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