An overview of e-commerce adoption in Indonesian SMEs

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Abstract. This paper aims to provide an overview of e-commerce adoption in Indonesian Small and Medium Enterprises (SMEs). The data were analyzed descriptively using official data from the publication of E-Commerce Statistics. We found a low level of e-commerce adoption, where most businesses use conventional patterns to sell goods and services. The paper concludes that it is necessary to understand better the barriers to small businesses in implementing e-commerce. To promoting accelerated e-commerce adoption, the national and local governments must support through various policy responses.

1. Introduction
In the last few decades, information and communication technology has impacted various fields, including the economy and business. People have used the internet to market, sell, and promote goods and services. This term is called e-commerce, which is a data-based marketing management model. E-commerce is a recognized instrument for managing business models [1]. Digital transformation has required companies to change the direction of their new business models through innovation [2, 3]. Therefore, this new business model innovation encourages companies, including MSEs, to adopt e-commerce.

The use of e-commerce by SMEs has a significant effect on the performance of SMEs [1]. To the development of e-commerce, various countries have paid great attention to influencing the adoption of e-commerce by MSEs in their countries. In Indonesia, in encouraging the development of e-commerce, the government has made various policies through the XIV Economic Policy Package regarding e-commerce. In 2017, the government issued Presidential Regulation No. 74 of 2017 concerning the Roadmap for the Electronic-Based National Trade System.

In this paper, we provide an overview of the level of e-commerce adoption in Indonesia. The data used in this paper sources from the publication of e-commerce statistics in 2019. The next section of this paper, namely in the second section, describes a literature review. The third section provides an overview of e-commerce adoption by SMEs, and the fourth section concludes.

2. Literature Review
This section provides an overview of previous work on the drivers and barriers to e-commerce adoption among SMEs in various countries, including Indonesia. Several factors drive e-commerce adoption among SMEs. Essential elements in the adoption of e-commerce in SMEs are technology, finance, culture, and organization [4]. A survey in the eastern part of the UK shows that e-commerce adoption patterns differ among SMEs in different industrial sectors, including other training and support needs.
Besides, SMEs have positioned e-commerce at the center of their technology and corporate strategy and achieved transformational change through the internet [5]. A study in Thailand has identified factors that influence e-commerce adoption decisions in SMEs, namely, organizational, technological, and environmental factors [6]. In Taiwan, several studies have identified the drivers of faster adoption in SMEs. By giving SMEs free trials to understand the potential benefits of e-commerce adoption by each e-commerce vendor [7].

Research and development (R&D) are one of the drivers of e-commerce adoption in SMEs. The empirical results show that e-commerce and R&D capital positively influence the productivity of SMEs [8]. Other practical results in Greece have also found the main determinants of e-commerce adoption in SMEs, namely innovation and R&D and collaboration activities, educated and skilled workers, decentralized decision making, and visionary leadership increasing the likelihood of adopting new technologies in SMEs [9].

In New Zealand, to support adoption, differences between adopters and non-adopters of e-commerce in SME professional services firms regarding their external and internal environment have been identified [10]. The SMEs that are most receptive to adopting e-commerce have financial and technological resources, see e-commerce as useful for their companies, and feel external pressure to integrate e-commerce into their organizations [11].

Besides providing many benefits, the application of e-commerce to SMEs with various barriers. The barriers include the lack of adequate human resources to run e-commerce appropriately [7]. In Australia, the slow adoption of e-commerce by SMEs is technical barriers. However, SMEs' main barriers mainly relate to the gender of the owner or manager and focus on the business market [12]. Likewise, in Egypt, what hinders the implementation of e-commerce in SMEs are technical barriers related to regulatory barriers and internet security [12]. Also, to accelerate the adoption of e-commerce in Egypt, efforts are needed to provide more sophisticated applications [12].

For this reason, the government must support the successful implementation of e-commerce in SMEs. This support is in the form of policies to protect local companies from the threat of multinational companies [13], regulations [14], and support for integrating digital transformation in the overall corporate strategy through the use of the internet and more sophisticated applications [2, 5, 14].

3. The Level of E-Commerce Adoption in Indonesian SMEs

This section provides an overview of e-commerce adoption, the start year of e-commerce, the e-commerce business according to economic activities, and marketplaces in Indonesia's SMEs. From the publication of Statistics Indonesia [15], it can realize that, of the 3,504 Census Blocks spread across 101 districts/cities in all provinces in Indonesia in 2019, only 15.08 percent of businesses have adopted e-commerce (Figure 1). The confirmation's low of e-commerce adoption by utilizing the internet and dominated by conventional business.

Furthermore, SMEs that have adopted e-commerce began to take advantage of the internet in the period 2010-2019. SMEs that started to use the internet before 2010 was only 1.53 percent of SMEs, 28.06 percent began using the internet between 2010-2016, while 25.11 percent started using the internet in 2019 (Figure 2).

Meanwhile, based on economic activity, the business field is in the Wholesale and Retail Trade Category; Repair of Motor Vehicles and Motorcycles is the type of economic activity that mostly adopts e-commerce 44.31 percent. The second-highest category is Accommodation and Food Service Activities, which is 18.11 percent. The next sector is the other economic activity at 11.21 percent, followed by manufacturing at 8.4 percent. Meanwhile, the last sector is Mining and Quarrying as much as 0.05 percent (Figure 3).

When viewed from a business based on marketplaces utilization, 19.52 percent have used Instagram, followed by website usage at 10.89 percent. SMEs that use marketplaces such as Shopee, Bukalapak, Tokopedia, OLX, and Lazada is still low (Figure 4).
Figure 1. Level of e-commerce adoption

Figure 2. E-commerce by start-up year

Source: Own elaboration from Statistics Indonesia [15]

Figure 3. E-Commerce by Economic Activity

Source: Own elaboration from Statistics Indonesia [15]
Conclusión

En la era de la globalización, el rápido avance de la tecnología de la información ha estimulado a todos los sectores, incluyendo las PYMEs, a adoptar la tecnología de la información (e-commerce). La adopción del e-commerce facilitará la venta de bienes y servicios y será más rápida en la promoción de productos al público. Aunque el nivel de adopción del e-commerce en las PYMEs en Indonesia aún es bajo en este momento, si todas las partes se unen para ayudar a las PYMEs, a largo plazo, habrá más PYMEs que han adoptado el e-commerce. Estos hallazgos muestran que es necesario identificar los factores inhibidores para la adopción del e-commerce. Por esta razón, se necesitan más estudios en el futuro para encontrar la solución adecuada en el manejo de los factores inhibidores de la adopción del e-commerce en Indonesia.

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