

The Effect of Digital Business Adoption and Organisational Innovation on the Performance of Small and Medium Enterprises

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In this preliminary descriptive study, the authors highlight a problem occurring in Indonesia. They reveal that Indonesia's "Digital Islands" are the largest internet user-base in the Southeast Asian region (150 million internet users in 2018), generate the largest internet economy (\$27 billion in the year 2018) and operate the fastest-growing internet economy in Southeast Asia. However, the use of E-commerce itself in the sector of small and medium enterprises (SMEs) in Indonesia is still only between 9-15 %. The objective of this review is to establish a theoretical model that links digital business adoption, organizational innovation, frugal innovation type, and firm performance. A systematic literature review (SLR) is the method used for the critical review. The critical result of the review is used as the basis for the development of the concept. More than 864,000 publications released between 2014 and 2019 were screened using the keywords: digital business adoption, e-business adoption, e-commerce adoption, type of innovation, frugal innovation, organisational innovation, and firm performance. Eventually, for this study, 23 journals were included. Based on the analysis, the conceptual model has four possible connections: (1) The positive relationship between digital business adoption and SME achievements; (2) the good relationship between the adoption of digital businesses and organisational innovation; (3) the positive direct impacts of organizational innovations on company performance; and (4) a positive relationship exists between digital business adoption and frugal innovation type and organizational innovation. This study contributes a conceptual framework that digital business adoption, frugal innovation type, and organisational innovation might have important roles in the performance of SMEs.

Key words: *Digitl Business, SMEs, Organisational performance*

Introduction

Indonesia's "Digital Islands" act as the largest internet user-base in the Southeast Asian region (150 million internet users in 2018), have the largest internet economy (\$27 billion in 2018) and are the fastest-growing internet economy in Southeast Asia. While E-commerce is experiencing healthy growth in all Southeast Asian countries, Indonesia is leading the way, reaching \$12 billion in 2018, and accounting for over one dollar in every two dollars spent in the region (Google & Temasek, 2018). The Indonesian E-commerce Association (Idea) who have said the same thing in the past, agree with the results of Google and Temasek's research showing that Indonesia's digital economy this year reached \$27 billion, or around Rp 391 trillion. This ranks Indonesia's digital economy transactions first for the Southeast Asian region, with a contribution of 49%. However, products from Indonesia that are being sold on the E-commerce platform are still *below 10 per cent*.

Deloitte Access Economics estimates the importance of the internet to the Indonesian economy to be around 1.6 percent of Indonesia's GDP (Deloitte, 2015). The demand for internet trade is projected to grow by as much as eight times between 2017 and 2022, from \$8 billion in 2017 to \$55-65 billion by 2022. These estimates are based on what happened in China between 2010 and 2015. Internet trade penetration is expected to increase to 83% of online users in 2022, rising from 74% today. At the same time, average private spending will grow from \$260 annually to \$620 annually in 2022, as environmental customer loyalty grows and more SMEs are available online, offering a broader range of products and more affordable, efficient distribution options (Mc.Kinsey, 2018).

The authors will discuss this work on small and medium-sized enterprises (SMEs), which have a crucial position and exert a major impact on economic growth in Indonesia. Many businesses in Indonesia are small and micro-enterprises. SMEs had played a role in driving economic growth following the financial crisis which occurred between mid-1997 and 1998, a time when large companies had trouble expanding their businesses (Tambunan, 2007). Many of Indonesia's businesses are small, or micro-enterprises and these SMEs can make a significant income contribution to Indonesia (Sari, Suryaningrum, & Budiarto, 2019). Small and medium-sized enterprises in Indonesia account for more than 90 per cent of all firms outside the agricultural sector and are, therefore, the largest source of employment, providing livelihoods for more than 90 per cent of the country's workforce, especially women and young people. Small and medium enterprises (SME) in Indonesia accounted for 99.99 per cent of the country's industry and employ ninety-seven per cent of the total workforce (Tambunan, 2007).

The authors started this research on digital business by collecting information about the internet-user population in Southeast Asian countries. Indonesian, Filipino and Malaysian

consumers spend about four hours a day on mobile internet. Online users in Thailand spend four hours and fifty-six minutes every day making use of mobile digital services, far more than in any other country in the world. In contrast, users of the internet in the U.K. spend just over two hours a day, and in the U.S., they spend just over 2 hours per day on mobile internet, as do users in France, Germany and Japan spend about 1 hour and 30 minutes a day (Google & Temasek, 2018).

Indonesian society is very enthusiastic about spending time on the internet but, compared to businesses that already use the internet, this usage is not linear. More than 60% of Indonesian SMEs are online, but only around 15% have online orders and payment systems. Indonesian SMEs face various obstacles in their quest for internet trade, and only a few have overcome them (McKinsey, 2018). Deloitte also found that more than a one-third of SMEs in Indonesia (36%) operated in a traditional manner, another third (37%) only used very basic internet skills, 18% had intermediate web abilities, and *under one-tenth (9%)* could be considered an enhanced internet business (Deloitte, 2015). Moreover, Indonesian products sold on the E-commerce platform still numbered *below 10 per cent*. Based on these figures, it could be said that there is a common challenge to be faced in making both the digital economy and E-commerce much stronger and more widely exploited, not because Indonesia is limited to the market only (Indonesia E-commerce Association, 2019).

Based on data from SME companies already using the internet in Indonesia, e-commerce is still only estimated to be between 9-15 per cent. As a comparison, the percentage of digital economic development in other Southeast Asian countries is Thailand 29%, Malaysia 67%, Vietnam 44%, the Philippines 37%, Brunei 65%, Singapore 73%, Myanmar 1%, and Cambodia 6% (Google & Temasek, 2018). The other additional data are Egypt 32% (Hamad, Elbeltagi, & El, 2018) and Australia 16% (Fan, 2016).

The authors can support the above-mentioned data of small and medium-sized enterprises using previous research on the organisational effect of internet technology achieved by examining the factors that influence the use of e-business and its influence on the development of small and medium-sized enterprises in the manufacturing sector. (Soto-Acosta, Popa, Palacios-Marqués, Popa & Palacios-marqués, 2015). For this report, the authors will focus the research on the SME culinary or food and beverage sector. According to the phases of the process of using information or stages in adopting E-business, previous research on E-business in one country in Europe concluded that "E-business Use" is often mentioned the final stage, and that it is more appropriate for developed countries. The authors here will use "The Adoption of E-business" (Digital Business Adoption) in their research into the situation in Indonesia (developing country).



The authors refer the reader to the previous research associated with the relationship of organizational innovation with firm performance. Advice from past research is that research designs can reflect various types of innovation as well as other forms of innovation (Soto-acosta et al., 2015). In this case, the authors have tried to continue the previous research by considering the form of frugal innovation type by posing the following questions: What does frugal innovation mean? And what drives frugal innovation as opposed to various other types of innovation?

The purpose of this study is to develop a conceptual model that links digital business adoption with firm performance, digital business adoption to organizational innovation, organizational innovation to firm performance, organisational innovation to firm performance moderated by frugal innovation, and how it can be implemented in developing countries such as Indonesia.

Methodology

The authors used a systematic literature review (SLR) to search for journals related to the research. This particular study utilizes the SLR strategy, which was suggested by Weerakkody, Irani, Lee, Osman & Hindi (2015) and Taha, Jahed, Ahmad & Zakaria (2013). A literature review is 'the compilation of available documents (both published and unpublished) on the subject which contain information, ideas, data and evidence written from a particular point of view in order to meet certain objectives or express certain views on the nature of the subject and how it is to be examined, and the successful analysis of those documents in relation to the research being proposed.' (Sekaran & Bougie, 2016). This strategy is divided into several sections: defining the research question that is to be addressed in the introduction; locating the research sources; completing the search process using keywords; collecting the information; and analyzing the results to address the research question. (Meyliana, Hidayanto & Budiardjo, 2016).

The authors search keywords were: digital business adoption, E-business adoption, E-commerce adoption, innovation type, frugal innovation, organizational innovation and firm performance. The researchers identified 864,000 journal publications. The authors then reduced the year of publishing year to 2014 to 2019, yielding 273,424 publications. The authors further narrowed the origin to specific social science journals, namely The Journal of Business Research, Information & Management, The International Business Review, and Procedia – Social and Behavior. Following this, 80 journals published between 2014 and 2018 were found. After screening the relevant industry types and methodologies, the systematic review involved 23 journals.

The authors suggest that there is a relationship between digital business adoption, organizational innovation, frugal innovation and firm performance (Figure 1):

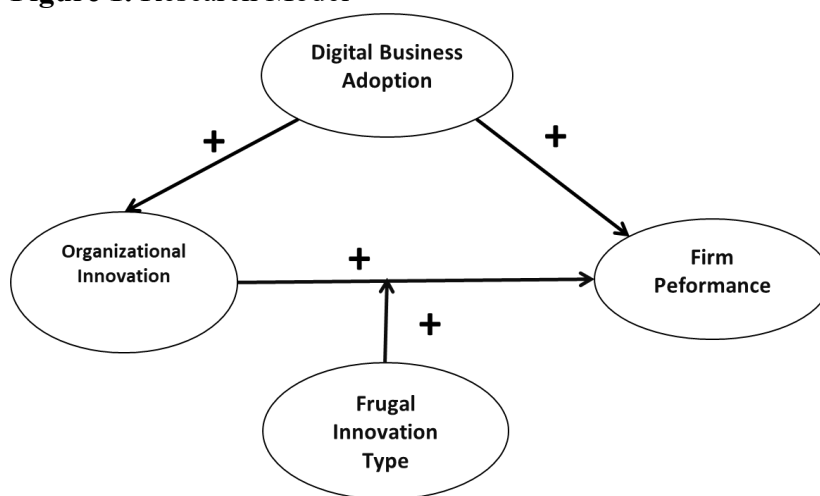
H1: Digital business has a positive direct effect on firm performance

H2: Digital business adoption has a positive direct effect on organizational innovation

H3: Organisational innovation has a positive direct effect on firm performance

H4: Organisational innovation has a positive direct effect on firm performance moderated by frugal innovation type

Figure 1. Research Model



Results

The writers analyzed 23 texts and found four main topics present: first, a relationship between digital business adoption and firm performance; second, a relationship between digital business adoption and firm performance; third, a relationship between Organizational innovation and firm performance; Finally, a relationship between organizational innovation and SME performance, moderated by frugal innovation type.

Digital Business Adoption and Firm Performance

“Digital business is broader in its scope than E-commerce. It is similar to the term E-business (which was first coined by IBM), who described it in 1997 as E-business (e’biz’nis) – the transformation of key business processes through the use of internet technologies” (Wan & Horvath, 2015). E-Business refers to a broader definition of e-commerce, covering not only the purchase and sale of services and goods but also the conduct of all business



activities online, including serving clients, partnering with business partners, delivering e-learning and digital transactions within businesses (Turban et al., 2017).

A six-phase view of the IT process combines initiation, adoption, adaptation, acceptance, routine and infusion. Usually, the dependent variable - the use of innovation - is coded in six steps, from 1 to 6 (Hsu, Kraemer, & Dunkle, 2006). The use level of E-Business measures the use of E-Business to perform or support business processes throughout the value chain: product design, production, logistics, marketing/sales, after-sales, etc. (Soto-acosta et al., 2015).

In a prior study, it was stated that the adoption of digital business has a significant effect on company performance (Soto-Acosta et al., 2015a; Abebe, 2014; Wang & Ahmed, 2009). One of the advantages of using digital technology for SMEs in Indonesia (Deloitte, 2015) is revenue increases of up to 80%. However, the situation facing SME companies in Indonesia include the problem of inefficient online marketing (Puji Lestari, 2019), minimal technological literacy (Kompas, 2018), a lack of optimal access to the E-commerce system (Rahma, 2019), as well as a lack of online knowledge and qualified human resources, according to (Mc.Kinsey, 2018). Consequently, the use of E-commerce itself in the sector of SMEs in Indonesia is still only between 9-15%. Previous research has expressed another opinion: that organizational innovation has a partial mediating effect between the use of E-business and company performance (Soto-acosta et al., 2015).

Digital Business Adoption and Organisational Innovation

Innovation is a way of modifying the organisation, either as a response to changes within or outside of the context or as a precautionary measure to affect the environment. Even when the environment does not change, most stagnant businesses constantly implement innovation over time. Innovation represents businesses' tendency to pursue and support new concepts, creativity, experiences and innovative processes which can produce new products, services and technological processes (Sciascia, Clinton, Nason, James, & Rivera-Algarin, 2013). In other words, innovation is knowledge applied to generate new knowledge (Cho & Pucik, 2005). Or to put it another way, innovation is the use of experience to generate new knowledge (Soto-Acosta et al., 2015a). The authors have researched the food and drinks sector. Previous studies also revealed a positive relationship between the use of ICT and SME performance in innovation (Scuotto, Santoro, Bresciani, & Del Giudice, 2017).

Organizational Innovation and Firm Performance

Innovation adoption is generally intended to contribute towards the adopting organization's performance or profitability (Ven, 1991). Innovative processes are a method through which

businesses can supply better production processes or goods to improve the performance of existing operations (Liao, Fei, & Chen, 2007). Prior research has explored the effectiveness of companies using four different innovation strategies that match the different product, system, and organisational innovation combinations. While they did not overtly check for complementarity, they found that enterprises with more than one type of innovation among their growth strategies grew faster than enterprises with an emphasis on only one form of innovation (Ballot, Fakhfakh, Galia, & Salter, 2015). In the long run, there has been a broad theoretical argument about information technology's ability to drive significant innovations in a company's business processes, products and services, and thus to improve its business performance (Soto-Acosta, Popa & Palacios-marqués, 2015b). In another study, it has been shown that companies use innovation as a vital value-enhancing activity, transforming the advantages of formal strategic planning into greater corporate performance (Dibrell, Craig, & Neubaum, 2014).

Organizational Innovation and Firm Performance Moderated by Frugal Innovation Type

Frugal innovation can be defined as products, services, or solutions that arise regardless of financial, human, technological or other resource constraints, and where the end result is cheaper than competitive offers (if available), and it meets the needs of customers who are otherwise still not served (Simula, Hossain, & Halme, 2015). The cost of innovation in the context of SMEs is often related to the initial investment in developing company-specific innovation capabilities, as well as the expenditure on development research that accompanies the initial stages of innovation activities. The costs of moving small and medium-sized companies from low to moderate exponents of innovation may be greater than those for small and medium-sized businesses, but the benefits may be higher than the cost should small, and medium-sized businesses switch from moderate to high levels of innovation (Kreiser, Marino, Kuratko, & Weaver, 2013). Innovative technology typically requires a great deal of work. Nevertheless, frugal innovation responds to resource constraints - economic, material or structural - and takes advantage of these barriers. Frugal innovation creates significantly low-cost products and services by reducing and using resources for growth, production, and distribution (Kirsten Bound and Ian Thornton, 2012).

In general, innovation in a short period of time can lead to possible losses, but over the long term, they may accelerate the positive effects on production, markets, and financial performance (Visnjic, Wiengarten & Neely, 2016; Rajapathirana & Hui, 2018). In connection with this exists the controversy about the relationship between innovation and corporate performance being linear and non-linear (U-shaped) due to the distribution of costs, which has a negative impact on corporate performance (Kreiser et al., 2013). The author's moderation regarding the various types of innovation (by comparing frugal innovation with



minimal conditions of resources and conventional innovation) will have more influence on company performance.

Conclusion

The authors suggest in this literature review that there are four potential links between digital business adoption, organisational innovation, frugal innovation and organisational innovation. Digital business adoption has a major direct effect on the performance of the company. Then, there is a strong direct impact on organisational innovation of digital business adoption. Organisational innovation has a positive impact on firm performance. Digital business has a direct positive impact on firm performance, which is moderated by a frugal innovation type. This study is limited to the fact that the literary review is exclusively based on one Science Clear search engine.

Further research is required on the empirical validity of the relationships between digital business adoption, organisational innovation, frugal innovation type and corporate performance. Further evidence-based research will contribute to theory and practice. The conceptual contribution would illustrate the relationship between digital business adoption, organisational innovation, frugal innovation type and corporate performance. The functional consequence would offer another perspective, i.e. that new tools are often used to boost solid performance for the director or operator of an SME company.



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