

E-Commerce Readiness of Creative Industry During the COVID-19 Pandemic in Indonesia

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Abstract

COVID-19 pandemic has brought the world into economic recession. This study aims to present an analysis of the readiness of creative e-commerce in Indonesia. Data was collected from various locations that may represent the Creative Industry in Indonesia. The quantitative method has been applied as a research approach by gathering questionnaires from 383 business owners selected using the cluster random sampling method. Based on the results of the analysis and discussion, it is concluded that E-Commerce Readiness is very important in times of uncertainty such as the COVID-19 pandemic. The level of readiness will determine the continuity and sustainability of a company or business in a volatile business environment. E-Commerce Readiness can be evaluated based on Technology Readiness, Organizational Readiness, and Environmental Readiness. Not all perspectives are taken into consideration in making decisions about the implementation or improvement of E-Commerce in the pandemic period. Technology Readiness is seen as the most significant impact on a company's ability to cope with volatility, while Environmental Constraints encourage businesses to adopt E-Commerce and take it to the next level. On the other hand, Organizational Readiness has no effect on the E-Commerce readiness of the company because the company or organization does not consider this aspect.

Keywords: E-Commerce, TOE Framework, Creative Industry, Indonesia

JEL Classification Code: M31, M15, L20, O32

1. Introduction

The creative economy has become an economic growth booster in many countries including Indonesia and is unique in that it is created from an unlimited resource – ideas. Indonesia has a promising future and growth of the creative economy. Indonesia's creative economy is very diverse and covers 16 different sub-sectors. Its performance in recent years demonstrates its strong growth potential. In 2017, the sector generated more than 7 percent of GDP – and employed around 15.9 million people. By 2020, we predict it will be

worth around IDR 1.924 trillion (approx. USD 130 million) (Badan Pusat Statistik, 2016). Indonesia's creative economy has huge untapped potential but faces a number of challenges. It is predicted that Indonesia's creative industry's growth will reach new heights in 2018. This prediction is in-line with the rapid progress of the country's e-commerce industry that has taken place in the last 5 years. Going forward, the creative economy is expected to become a new economic driver. However, much of the sector consists of small and medium-sized enterprises that still only market their products locally. Furthermore, only 50.87% of companies and entrepreneurs adopt e-commerce in their business operations. While each subsector's adoption rate is varied, only two subsectors have more than a 75% e-commerce adoption rate. Low Internet usage and low level of E-Commerce adoption may indicate that many businesses still rely on their offline transactions' method.

Indonesia has reached the intermediate stage in terms of digital readiness with digital readiness scores of 11.73 as reported by Cisco in 2018 (Yoo et al., 2018). In the era of Industry 4.0 where digital connectivity is the main thing, it has created many opportunities to transform a business from

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conventional to e-commerce. The low level of e-commerce adoption among entrepreneurs in the Creative Economy sector deserves special attention. In turn, it can be argued that the level of technological readiness and the potential for innovation of a country are the basis for improving logistics and business performance as well as the digital transformation of the aspiring economy and society.

E-Commerce adoption is the process of buying, selling, transferring, or exchanging products, services, and/or information via computer networks, mostly the Internet and intranets (Osmonbekov et al., 2002). It is widely recognized that e-commerce technology offers many potential advantages for businesses. The key advantages revealed by the extant e-commerce literature are reduced cost, increased sales, increased productivity, reduced time processing, extended market reach, and increased customer loyalty (Gomber et al., 2018). Using e-commerce, organizations can expand their market to national and international markets with minimum capital investment. An organization can easily locate more customers, best suppliers, and suitable business partners across the globe. E-commerce helps organizations to reduce the cost to create processes, distribute, retrieve and manage paper-based information by digitizing the information (Mukherjee & Nath, 2003). E-commerce helps to simplify business processes and makes them faster and efficient. E-commerce increases the productivity of organizations. It supports pull-type supply management. In pull-type supply management, a business process starts when a request comes from a customer and it uses a just-in-time manufacturing way (Phan, 2003). The success of the SME business does not lie in the quality of goods or services alone, but the ability to build collaborations to expand businesses in a global market order. E-commerce can be an important source of competitive advantage for most business organizations, especially small- and medium-sized (SMEs) businesses. (Purnamasari et al., 2020).

In the context of this research, the meaning of the term creative economy market industry refers to the products or services offered that contain a substantial element of creative business by covering the cultural industry in particular (Cunningham, 2002). The creative economy has no single definition. It is an evolving concept which builds on the interplay between human creativity and ideas and intellectual property, knowledge, and technology. Essentially it is the knowledge-based economic activities upon which the 'creative industries' are based. (Bilton & Leary, 2002). Producing products and services by adding new values, and always adapting to the latest information technology in supporting the creative process (Tyre & Orlikowski, 1994). The creative economy is the sum of all the parts of the creative industries, including trade, labor, and production. Today, the creative industries are among the most dynamic sectors in the world economy providing new opportunities

for developing countries to leapfrog into emerging high-growth areas of the world economy. The creative economy is the use of resource reserves that are not only renewable but also not limited, which can be in the form of ideas, talents or talents and the creativity of individuals or groups of people (Hidayat, 2015).

A number of previous studies have shown that the adoption of e-commerce can increase macroeconomics such as added value, GDP, international trade, and employment levels. The COVID-19 pandemic has brought a negative impact on worldwide economics in all types of industries and sectors (Patma et al., 2020). Actions and measures are taken not only to contain the spread of the pandemic but also to maintain the economy to sustain and minimize the negative impacts. One of the actions taken by many countries and states are limiting the activities of their citizen in several stages, starting from physical distancing to lockdown measures. Due to these measures and actions taken, many people cannot carry out their usual business interacting with customers face-to-face locally as well globally (Schafer, 2007). Unless there is a permanent solution to cure the pandemic or setting up proper countermeasure and live along with the virus, this condition may last for a long period of time. This situation is not only impacting their current business performance but also threaten their business survivability and sustainability.

Based on the background of the problems above, this study aims to present an analysis of E-commerce readiness in Indonesia's creative industry during the pandemic.

2. Literature Review

Companies that have sustainable competitive advantages will have long-term benefits towards company performance (Barney, 1991). To maintain competitive advantages over competitors, adopting the concept of e-commerce towards business may become the source of competitive advantage (Khan et al., 2016). E-commerce is the buying and selling of goods (or services) on the Internet. It encompasses a wide variety of data, systems, and tools for online buyers and sellers, including mobile shopping and online payment encryption (Wigand, 1997). Several people may have views that e-commerce is only limited to transaction activities to differentiate with e-business terms that have broader meaning and concepts.

Businesses which is planning or currently transforming to e-commerce need to review the impact of adoption and innovation based on consideration of three elements, which are Technology, Organization, and Environment (Tornatzky & Fleischer, 1990). Adopting e-commerce in the creative industry may implement the same TOE Framework concept to ensure the businesses are ready to adopt. The TOE framework was developed by Tornatzky and Fleischer

(1990). It identifies three aspects of an enterprise's context that influence the process by which it adopts and implements a technological innovation: technological context, organizational context, and environmental context

The technology element represents all technology relevant to business, the Organization element refers to the characteristics and resources of the company, while the environmental element describes the industry structure, the influence on technology service providers, and environmental regulators. The TOE framework has been recognized from various studies, including SME actors in Indonesia (Rahayu & Day, 2015) where some of these entrepreneurs also contribute directly to the creative economy.

2.1. E-Commerce Readiness

Electronic Readiness is a measure of the degree to which a country, nation, or economy may be ready, willing, or prepared to obtain benefits that arise from information and communication technologies (ICTs), such as e-commerce (Hourali et al., 2008). The current dynamic and turbulent business environment have forced companies that are competing in global markets to change their traditional methods of conducting business. Recent developments in applying Information Technology (IT) offer the most exciting business opportunities in the marketplace. Organizations must re-evaluate every aspect of their strategies and quickly move to a working model where electronic commerce is essential for their success (Chen et al., 2014). Several studies of eCommerce in developing countries have emphasized the influence of contextual impediments related to economic, technological, legal, and financial infrastructure as major determinants of e-commerce adoption. Despite operating under such constraints, some organizations in developing countries are pursuing the e-commerce agenda while others are not (Molla & Licker, 2005). One of the tools that can be used for measuring the diffusion rate of IT is e-readiness assessment. Small and Medium Enterprises (SMEs) are critical to the economies of all countries, including developing ones. They cannot be left behind and many are already demonstrating their entrepreneurship strength by grasping opportunities offered by IT.

The level of readiness of a company for an aspect will be followed by the level of maturity of that aspect, in this case, e-commerce. The stages of development of an aspect can be described as a Model Stage of Growth, which is a theoretical model for the growth of information technology (IT) in a business or similar organization. The model proposes that the evolution of IT in organizations begins slowly in Stage I, the "initiation" stage. Stage I is followed by further growth of IT in the "contagion" stage. During Stage III a need for "control" arises. Next, in Stage IV, "integration" of diverse technological solutions evolves (Nolan, 1973). Although

the stages model is claimed to have a descriptive as well as prescriptive nature, little has been written on the transition strategy to a more mature stage. Planning an e-business initiative involves consideration of several important issues. The decisions and considerations regarding these issues or dimensions of e-business should be integrated to form a consistent, coherent, and complete strategy for the e-business initiative (Prananto et al., 2001).

2.2. Creative Industry E-Commerce Readiness

Large-scale social restrictions (LSSR) or "*Pesta Seks Berskala Besar* (PSBB)" are currently in place in Indonesia in response to the COVID-19 pandemic or PSBB. Furthermore, with the limitation and restriction towards face-to-face meetings and offline transactions, many businesses must adopt e-commerce to enable online transactions and take their e-commerce level to a new height, which some of them may not yet be prepared for. Each subsector in the creative economy has its own unique characteristics and different barriers. For example, in the culinary subsector, dine-in restriction became one of the huge barriers to reach consumers, while conventional fashion designer could not meet their clients to discuss and design on the spot. Based on the TOE framework and resource-based theory perspective (Zhu & Kraemer, 2005), we may review their readiness into Technology Readiness, Organization Readiness, and Environment Readiness.

2.2.1. Technology Readiness

Technology competencies may become one of the main considerations whether a company or organization is ready to take its e-commerce side to the next level, especially during the pandemic period. Technology competencies will not only cover the physical assets, but also other resources that act as complimentary towards physical assets (Mata et al., 1995).

The technological context refers to aspects such as perceived benefits, compatibility, and costs, which affect the adoption of e-commerce technology. Perceived benefit refers to the perception of the positive consequences that are caused by a specific action. Perceived benefits are defined as the gains or improvements derived from existing ways of operating business transactions using e-commerce applications. Perceived benefits refer to the level of acceptance of the possible benefits that e-commerce technology can provide for organizations (Iacovou et al., 1995). A greater managerial understanding of the relative advantages of e-commerce adoption increases the likelihood of a company allocating some resources, such as managerial resources, financial resources, and technological resources, to adopt e-commerce technology (Moldabekova et al., 2021). Then compatibility refers to the extent to which e-commerce

is in accordance with the technology infrastructure, culture, values, and work practices that already exist in the company (Huy & Filiatrault, 2006). Innovation will be easily accepted in an organization if it is in line with applicable organizational values, can meet organizational needs, and is in accordance with the organizational culture. Therefore, the explanation leads to the following hypothesis:

H1: *Perceived benefits positively influence e-commerce adoption by SMEs.*

2.2.2. Organization Readiness

Organizational readiness indicates the relationship between people, processes, systems, and performance measurement. It requires synchronization and coordination without which no implementation will be successful (Chen et al., 2014). Therefore, firms have to consider and prepare their organization capabilities to enable further their e-commerce adoption level.

The organizational context refers to the characteristics and resources of the firm, including linking structures between employees, intra-firm communication processes, firm size, and the amount of slack resources. There are several ways in which this context affects adoption and implementation decisions. First, mechanisms that link internal subunits of the organization or span internal boundaries promote innovation. Organizational context refers to company characteristics that might influence the adoption of e-commerce technology (Rahayu & Day, 2015). More broadly, the organizational structure has been studied to identify its relationship to the innovation adoption process. Organic and decentralized organizational structures are associated with adoption (Zhu & Kraemer, 2005). Technology readiness consists of technology infrastructure and IT human resources and both are needed if companies want to make e-business an integral part of the value chain (Phan, 2003). The primary purpose of using technology readiness levels is to help management in making decisions concerning the development and transitioning of technology. Therefore, the greater the technological readiness of an organization, the more likely it is that the organization will adopt IT technology, and vice versa. Organizational readiness implies adequate technological and financial resources to enable e-business adoption. Another factor in the organizational context that is identified as a determining factor in the adoption of e-commerce is company size. This is because the size of the company is related to the ability of the business to provide certain resources, both financial and human resources. The larger the size of the business means the greater its ability to provide certain resources,

and the greater the likelihood of e-commerce technology adoption. Thus, in this study, it is hypothesized that:

H2: *Technology readiness has a positive effect on e-commerce adoption by SMEs.*

2.2.3. Environment Readiness

Instead of regulatory support, we propose government restriction during the pandemic period may be considered as the important factor to drive e-commerce readiness. During the pandemic period, government regulations are mainly related to pandemic management and how to minimize the impact towards casualties, health care systems, and economics both from short-term and long-term perspectives. While in general many businesses' performances were impacted due to restrictions, as such, there are possibilities that those constraints may become enablers towards the e-commerce business model.

Environmental factors refer to external influences such as pressure from customers/suppliers, pressure from competitors, and external support that influence e-commerce adoption. In this study, customer/supplier pressure is related to the degree of pressure from customers/suppliers felt by SMEs. In many cases, customers/suppliers have the power to pressure SMEs to adopt certain types of technology. For example, multinational companies often encourage their branches and suppliers to adopt e-commerce technology to be linked to their global production networks. Environmental context and organizational context have an important influence on RFID acceptance in Chinese firms. The environmental context includes customer mandate, competition pressure, and RFID vendor support. The organization context includes is usage, professionals of its unit, and firm size. The characteristics of RFID technology itself are not significant for RFID acceptance (Li et al., 2010). Technology competence, firm size, financial commitment, competitive pressure, and regulatory support are important antecedents of e-business use (Zhu & Kraemer, 2005). A positive relationship is identified between the perceived direct benefit, top management support, external pressure, trust, and the adoption of e-market in Australian SMEs (Duan, et al., 2012).

Competitor pressure refers to the level of pressure from competitors in the industry as perceived by the company (Zhu & Kraemer, 2005). When competitors start using e-commerce technology, companies will be encouraged to adopt e-commerce technology more widely to gain a competitive advantage. Thus, the higher the level of competition in the industry, the more likely it is that greater use of e-commerce will be achieved

(Zhu & Kraemer, 2005). Therefore, this explanation leads to the following hypothesis:

H3: *Customer/supplier pressure has a positive effect on the implementation of e-commerce by SMEs.*

3. Research Methodology and Design

Data was collected from various locations that may represent the Creative Industry in Indonesia. The quantitative method has been applied as the research approach by gathering questionnaires from 383 business owners selected using cluster random sampling method and measured by 6-point Likert scale through the online host with cross-sectional study approach. The Balanced Scorecard is a set of performance targets and results relating to four dimensions of performance — financial, customer, internal process, and innovation. It recognizes that organisations are responsible to different stakeholder groups, such as employees, suppliers, customers, community and shareholders. Each of balanced scorecard perspective was represented by 3 items with total items in this part being 12 items: Revenue Growth, Sales Growth, Days Turnover, Returned Goods, Productivity, Employee Satisfaction, Consumer Complaint, New Consumer, Consumer Waiting Time, Employee Training, Expenditure on New Technology, and Expenditure on Training (Grigoroudis et al., 2012).

Collected data was analyzed using SPSS to measure the Cronbach's Alpha with values more than 0.7 which indicates the reliability of the items. By using Confirmatory Factor Analysis (CFA) through SPSS AMOS, Standardize Factor Loadings (SFLs) were used to measure the correlation for each perspective and their items. If there is a weak correlation with a result below 0.5, the items or perspectives are considered as a weak correlation and will be ignored.

4. Results and Discussion

4.1. Results

The respondents for this research are selected from Jakarta, West Java, Central Java, East Java, and Bali, and are selected from the province which may represent the Creative Business diversity. Each respondent has been using e-commerce as one of their business channels. Most of the respondents come from the Food and Beverages subsector, followed by Fashion and Design with a total of 13 different subsectors involved in this research.

Cronbach's Alpha results for 12 items are 0.802 which reflects the reliability of the data. Using the Confirmatory Factor Analysis (CFA), Table 1 shows that Days Turnover and Returned Goods did not achieve the minimum threshold of Standardized Factor Loading of 0.5, which means,

Table 1: Result of Factor Loading

Items	SFL
Revenue Growth	0.69
Sales Growth	0.78
Days Turnover	0.36
Returned Goods	0.49
Productivity	0.73
Employee Satisfaction	0.6
Consumer Complaint	0.68
New Consumer	0.67
Consumer Waiting Time	0.53
Employee Training	0.71
Expenditure on New Technology	0.75
Expenditure on Training	0.83

the result may be excluded or ignored. Furthermore, the Goodness-of-Fit index was still below 0.9, which means, the model was not fit enough to perform analysis.

Balanced scorecard results are significantly correlated with each other. Nevertheless, in this research, we found that Learning and Growth do not Sternal Process and Customer Perspectives. The result indicates that Learning and Growth do not become one of the key indicators to measure E-Commerce performance in Creative Business, especially in Indonesia.

Creative Business in Indonesia does not have boundaries by firm size. Furthermore, most of the businesses are not yet bounded as a business entity and operated in an SME environment. These conditions may become one of the reasons that Learning and Growth do not have a significant impact on the financial aspect and provide the lowest correlation influence compared with other correlations. This finding aligned with previous research which stated that Knowledge Management does not have a significant impact on business performance (Byukusenge & Munene, 2017). Therefore, Creative Business will need another mediator to make the Learning and Growth became relevant to other perspectives.

This research provides a different view towards the importance of Learning and Growth Perspectives in Creative Business. Lower correlation leads to an irrelevant relationship which may be taken out or replaced with other perspectives when measuring e-commerce performance through a balanced scorecard. Entrepreneurs and business owners who operate their business in creative industries and desired to improve their e-commerce performances may focus their resources on the Financial, Internal Process, and

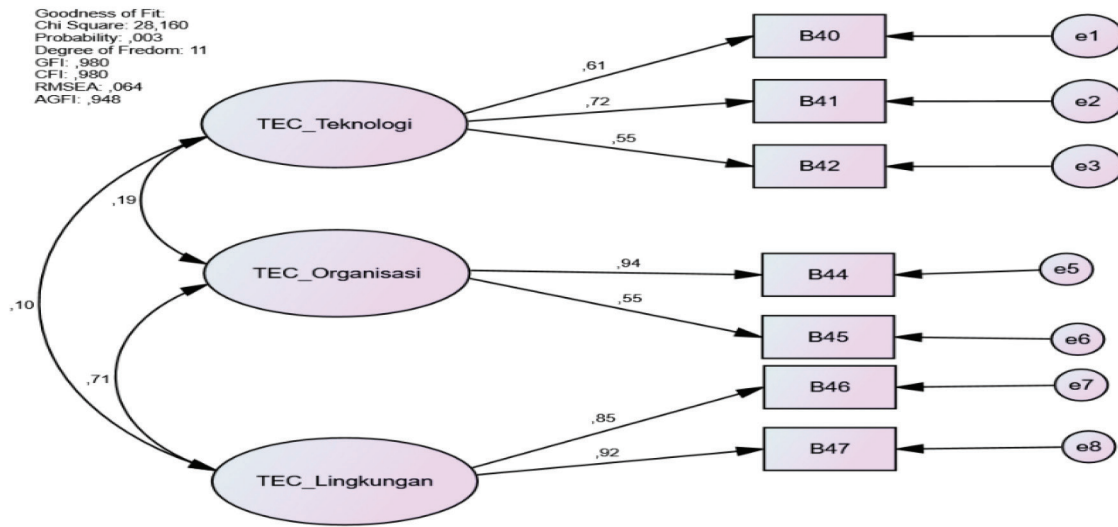


Figure 1: CFA Model

Table 2: Items Covariances

			Estimate	S.E.	C.R.	P	Label
Financial	↔	Internal_Process	0.277	0.031	8.867	***	
Financial	↔	Customer	0.222	0.027	8.176	***	
Financial	↔	Learning_and_Growth	0.028	0.027	1.007	0.314	
Internal_Process	↔	Customer	0.242	0.027	8.980	***	
Internal_Process	↔	Learning_and_Growth	0.064	0.029	2.194	0.028	
Customer	↔	Learning_and_Growth	0.078	0.026	3.040	0.002	

Customer perspectives. Furthermore, they do not need to focus on the Days of Inventory Turnover and the Number of Returned Goods.

4.2. Discussion

Based on the results of the analysis, it is found that there are still many SME businesses in Indonesia that do not yet have reliable human resource readiness with knowledge and skills in the field of information technology, and they have infrastructure devices with substandard networks and Internet connections, instability of communication networks from vendors, and research limitations in terms of telecommunication infrastructure. Government policy is also an important factor and is still a barrier to building SME businesses through the adoption of E-Commerce (Simpson & Docherty, 2004). But on the other hand, government policies also need important attention, because many e-commerce business players also carry out unfair competition patterns

that can weaken or cause losses to the e-commerce industry in Indonesia. Moreover, in an open Internet network, anyone can easily access and download anything. For this reason, as a factor that has an important role in the growth of e-commerce, standard government policies and regulations are needed to be clear and transparent. Besides being able to protect consumers in making online transactions, it must also be able to prevent and secure the possibility of fraudulent acts committed by certain parties (Gefen, 2002). Furthermore, the compatibility factor in terms of technology is also the cause of the difficulty in the e-commerce adoption process. The suitability factors often a hindrance because not all types and products can be marketed through e-commerce. The constraints of the location and domicile of each SME business are not all covered by access to communication network technology with the availability of E-Commerce infrastructure (Xu et al., 2009).

E-commerce adoption has become a core part of the competition for every SME business today, although it has not

been able to fully increase organizational agility in capturing target market share. The success of adopting e-commerce in growing the creative economy market cannot be separated from the readiness of infrastructure, structures, and local organizational culture in shaping a social perspective through top management support (Granlund & Taipaleenmäki, 2005). The agility of the SME business organization must fully involve top management support, organizational readiness, government policies, and compatibility. These four factors are important dimensions that tend to be inhibiting factors for e-commerce adoption (Sila, 2015). So, a clear concept is needed to strengthen these four factors so that e-commerce adoption can run smoothly in growing the creative economy market. Growing a creative economy market is a future challenge in strengthening the foundations of a social economy. Besides, it must strengthen relationships with vendors, foster a level of public trust in online shopping, guarantee online ordering and payment transactions, and always improve information technology skills.

Environmental constraints encourage businesses to adopt e-commerce, especially the external pressure (consumer demand). This consumer demand is in the form of ease and practicality in using transactions. A possible explanation for this condition is that the majority of customers in Indonesia are identified as “online shoppers in a conventional way” (Urumsah, 2015) where customers visit online sites only to see the products offered, and if interested, they place orders conventionally by telephone, fax or even face to face. Micro or small businesses must follow and provide things that consumers need such as websites because consumers are a source of income for businesses. Micro and small businesses in adopting e-commerce need to determine the environmental conditions of the company which requires an environmental perspective factor. This environmental perspective factor is useful for ensuring an adequate environment for micro and small businesses in adopting e-commerce (Rahayu & Day, 2015). When micro and small businesses know about the environmental conditions of the company, they can make changes to their businesses so they are not left behind with today’s modern technology era.

5. Conclusion

Based on the results of the analysis and discussion, it is concluded that e-commerce readiness is vital during times of uncertainty such as the COVID-19 pandemic. The level of readiness will determine the continuity and sustainability of a company or business in a volatile business environment. E-commerce readiness can be evaluated based on Technology Readiness, Organizational Readiness, and Environmental Readiness. Not all perspectives are taken into consideration in making decisions about implementing or increasing e-commerce in the pandemic period. Technology Readiness

is seen as the most significant impact on a company’s ability to cope with volatility while Environmental Constraints encourage businesses to adopt e-commerce and take it to the next level. On the other hand, Organizational Readiness has no impact on the e-commerce readiness of the company because the company or organization does not consider this aspect. Future research can explore the relationship between the level of readiness and the maturity level of the e-commerce business.

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