

The Influence of ICT Capability on Competitive Advantage of Small Businesses through Entrepreneurial Orientation and Organisational Agility – The Case of Apparel Retailers in Pekanbaru Indonesia

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The aim of this paper is to find out how Information and Communication Technology (ICT) capability has affected competitive advantage through entrepreneurial orientation and organisational agility of the Indonesian apparel retailers. This study is based on resources that cannot be directly converted into competitive advantage for companies but must go through an entrepreneurial process and offer new insights into the use of ICT as a valuable company resource. The paper is based on a quantitative approach with the population of apparel retailers in traditional markets of Pekanbaru City, Indonesia. The sample was taken using random sampling. The survey was conducted in 104 small businesses in five traditional apparel markets centres. The data is processed with Structural Equation Modelling using Partial Least Squares. The results show that ICT capability has a significant effect on competitive advantage, entrepreneurial orientation and organisational agility. Organisational agility and entrepreneurial orientation have a significant effect on competitive advantage. This indicates that ICT capability in small businesses can be directly converted into a competitive advantage. The research findings show that ICT capability will be able to create competitive advantage for apparel retailers through entrepreneurial orientation and organisational agility.

Key words: *ICT capability, entrepreneurial orientation, organisational agility, competitive advantage, apparel retail.*

Introduction

One approach that focuses on the increase in competitive advantage for business organisations is ICT capability. According to Parida et al. (2016), ICT capability is a firm's ability to strategically use information and communication technology functions or applications in their business activities, such as the use of e-mails, websites, e-commerce, web conferencing, intranets, extranets and other similar tools. The definition is in accordance with the definition of Teece et al. (1997), namely a firm's ability to reconfigure resources and routines for achieving sustained competitive advantage. Accordingly, ICT capability is required so that companies are able to adjust, integrate, reconfigure and re-create the internal and external competencies so that they can gain a competitive advantage in an ever-changing business environment (Nurlina et al., 2019).

There is high growth in the utilisation of ICT as a company's capability in small businesses in Indonesia. Euromonitor International notes that online sales in Indonesia are higher than those of Thailand and Singapore. The Indonesian *e-commerce market* is believed to have a chance to grow bigger. This is supported by high population and the largest level of Gross Domestic Product (GDP) in ASEAN. Statista International noted that the average annual growth of Indonesian online sales during 2014-2020 continued to grow. The technology of network access for online transactions for individual buyers shows that mobile broadband wireless (3G, LTE/4G) is the most widely used. This means that the development of mobile phone technology influences the dynamics of business.

According to the statistics of the Ministry of Communication and Information Republic of Indonesia (2016) on the number of goods and services purchased in e-commerce in 2016, 78.3% of the most purchases items are ready-made apparel. This data indicates that in the digital economy era, the process of buying and selling products does not only occur in conventional stores but also via digital media (Pakdel and Talebbeydokhti, 2018).

Previous research showed that information and communication technology capabilities have a significant effect on competitive advantage (Powell & Micallef, 1997; Maguire et al., 2007; Olatokun & Kebonye, 2010; Cakmak & Tas, 2012; Chibelushi & Trigg, 2012; Harrigan et al., 2012; Higón, 2012; Adeniran & Johnston, 2014; Kadadevaramath et al., 2015; Adeniran & Johnston, 2016; Yunis et al., 2017). Hult and Ketchen (2001) argued that a combination of resources collectively contributes to competitive advantage.

The researchers of competitive advantages on SMEs such as Bagheri et al. (2013); Budiarto et al. (2017); and Şerbu and Borza (2014), believe that the current digital economy era requires every person and organisation to be involved in effective communication and information technology in the context of economic and community development. Particularly, Hoque et

al. (2016), who stated that the study of the role of information and communication technology in small businesses has become a special challenge. This relates to small businesses which have limited resources and have distinctive characteristics to create competitive advantage (Tripathy, Agrawal and Rath, 2016). Small businesses in clothing sales centre in traditional markets have realised the importance of managing the resources of the information and communication technology capability.

The originality of this research is to try to test and explain the competitive advantages of small apparel sellers of traditional markets in Pekanbaru City based on The Resources Theory of the Firm (RBV). In this case there are three constructs involved, namely: the capability of information and communication technology; entrepreneurial orientation in the process of building the organisational capability; and organisational agility in the process of forming competitive advantages. This phenomenon is approached by the Theory of the Firm put forward by (Barney, 1991). After a library search for information and communication Technology capabilities, entrepreneurial orientation, organisational agility and competitive advantages in SMEs it showed that the relationships between the constructs, as described, has never been done before.

The problem to be answered by this research is what is the influence of the capability of ICT on competitive advantage through entrepreneurial orientation and organisational agility in small business of Apparel Retailers in Pekanbaru, Riau Province.

Methodology

The technique of analysis used was Structural Equation Modelling (SEM) with SmartPLS3 software. According to Suharjo and Suwarno (2002), the number of SEM analysis samples that will give a stable result is 200 respondents. According to Hair et al. (2006), the sample size is 5-10 times the expected number of model coefficients. The real number of respondents who were successfully obtained was 104 from small-scale businesses. That came from the multiplication of 5-10 times of the model coefficient with 65 items of research questionnaire (Hair et al., 2006). Malhotra (2010), stated that the Likert scale submitted to respondents should use a 5-point scale, namely 5 = Strongly agree, 4 = Agree, 3 = Neither agree nor disagree, 2 = Disagree, 1 = Strongly disagree. The construction of the questionnaire came from four variables, based on theoretical studies reduced to dimensions and indicators of research.

Results and Discussion

This research uses the SEM analysis technique with Partial Least Square (PLS). SEM analysis with PLS is carried out in three stages, namely the outer model analysis, the inner model

analysis, and the hypothesis testing.

Analysis of the Outer Model

According to Chin (1998), and Ghozali (2005), construct reliability testing is measured by composite reliability and Cronbach's alpha. Constructs are reliable if they have composite reliability values above 0.70 and Cronbach's alpha above 0.60. While the value of average variance extracted (AVE) to measure the validity is 0.5 Ghozali, (2005). Table 1 is an analysis of the research outer model.

Table 1: Cronbach alpha, composite reliability and average variance extracted

	<i>Cut-off Value</i>	Bus_ Agility	Comp_ Advantage	ICT_ Cap	Orientat_ Entre	<i>Explanation</i>
<i>Cronbach's Alpha</i>	>0.6	0.923	0.923	0.919	0.964	All aspect of Apparel retailers meet the required standard
<i>Composite Reliability</i>	>0.7	0.963	0.940	0.949	0.972	
<i>Average Variance Extracted (AVE)</i>	>0.5	0.929	0.723	0.861	0.875	

Based on the criteria of Table 2, the output of the data shows that all criteria from the outer model can be fulfilled. Therefore it can be concluded that the data has good validity and reliability, and the research can proceed to the analysis of the inner model.

Analysis of the Inner Model

Analysis of the inner model/structural model is conducted to ensure that structural models are built robustly and accurately. Robust regression was first introduced by Andrews (1972) and is a regression method used when the data has an abnormal error distribution or there are several outliers that affect the model (Azwar, 2009). This method is an important tool for analysing data influenced by outliers so that it produces a model resistant to outliers.

The inner model evaluation can be seen from several indicators which include: coefficient of determination (R²); predictive relevance (Q²); and Goodness of Fit Index (GoF). Following is a presentation for each indicator.

A. Coefficient Determination (R²)

Table 2: Value R² of output software **smartPLS 3**

	<i>R Square</i>	<i>R Square Adjusted</i>
<i>Business Agility</i>	0.868	0.867
<i>Competitive Advantage</i>	0.726	0.723
<i>Eentreprenurial orientation</i>	0.873	0.873

According to Chin (1998), the R square value is 0.67 (strong), 0.33 (moderate) and below 0.19 (weak). This research model is categorized to have a strong relationship between the variables being analysed. In this research, there are two endogenous variables namely organisational agility and competitive advantage and two exogenous variables. Based on R square and adjusted R square values, there is a strong relationship between exogenous variables either independently or together.

B. Predictive Relevance (Q2)

To calculate Q2 the following formula can be used

$$Q2 = 1 - (1 - R_{12}) (1 - R_{22}) \dots (1 - R_{n2}) \dots \dots \dots (1)$$

$$Q2 = 1 - (1 - 0,868) (1 - 0,726) (1 - 0,873) \dots \dots \dots (2)$$

$$Q2 = 0.995$$

This test is conducted to determine the predictive capability with the blindfolding procedure. According to Chin (1998), if the value obtained is 0.02 then the model has a small predictive capability. If the value obtained is 0.15 then the model has a medium predictive capability and if the value obtained is 0.35 then the model has a large predictive capability. The calculation of Q2 is 0.995; therefore the model has a large predictive capability.

C. Goodness of Fit Index (GoF)

GoF values in SEM with PLS are calculated manually (Tenenhaus, 2004) with the following formula:

$$GoF = \sqrt{AVE^2 \times R^2} \dots \dots \dots (3)$$

$$GoF = 0.77$$

According to Tenenhaus et al. (2005) For GoF a small value = 0.1, medium = 0.25 and large = 0.38. Based on the calculation of the GoF this model has a large value which shows that the model represents a real phenomenon.

Hypothesis Testing

The test of hypotheses in SEM PLS is done with a bootstrapping process that produces t-count values. If the t-count value is greater than that of the t-statistic with a 95% confidence level (> 1.96) then the hypothesis is significant. Whereas to find out how much influence between the variables, you then find out the value of the loading factor of the original sample output of smartPLS. This can be seen in the path coefficients table on the smartPLS output.

Discussion

The results of this research confirm the findings of previous studies that ICT capability is positively related to entrepreneurial orientation. Thus, there is a tendency that entrepreneurial orientation will increase when ICT capability develops well in an organisation (Lucchetti & Sterlacchini, 2004; Harrigan et al., 2012; Higón, 2012; Adeniran & Johnston, 2014; Parida & Örtqvist, 2015; Parida et al., 2016; Yunis et al., 2017).

In this context, the analysis shows that ICT capability acts primarily to achieve company efficiency. OE on ICT capability shows the potential to generate a competitive advantage through new product innovations, proactive actions and risk-taking in dynamic market conditions.

ICT capability is the ability possessed by businesses to utilise digital media/information technology to support the running of the business. Information technology is a set of technologies used by an organisation to produce, process and disseminates information in every form. Therefore, information technology provides support for company operations. Information technology is useful to reduce the costs in business activities, especially for small businesses that require a budget allocation for other uses (Roostika & Muafi, 2014).

Small businesses in both developed and developing countries operate in highly uncertain and dynamic market conditions (Laforet, 2008; Frambach et al., 2003). According to Frambach et al. (2003), such market conditions along with technological turbulence force companies to look for alternative ways to survive and grow. For many people, the use of ICT has been considered as the main source of organisational agility both when dealing with suppliers and with consumers.

In line with previous research, Yaghoobi et al. (2014), showed that ICT capability has a positive effect on business agility. It will affect the agility of small businesses because adequate digital capabilities will be able to provide many business opportunities and relationships with customers and resources.



Sambamurthy et al (2003), argues that IT allows agility through external collaboration platforms, supply chain systems and management systems of customer relations. This enables a fast and up-to-date flow of information between the buyers, sellers, partners and competitors.

Entrepreneurial orientation with organisational agility is connected by complex and multidimensional relationships. Entrepreneurship orientation creates good conditions for organisations to explore and exploit opportunities due to the following reasons. Firstly, innovativeness facilitates the organisation to explore and exploit new ideas and help adjust to change (Lumpkin & Dess, 1996; Rauch et al., 2009). Technological innovation and progress increasingly become an important component of competing strategies for many companies (Miller 1989). With the ability to maintain an effective corporate entrepreneurship, innovation provides an attractive source of competitive advantage if it creates positive synergy for the company. Similarly, if the innovation process or innovation results are difficult to replicate, an effective company makes innovation an increasingly important factor to maintain a competitive advantage.

Unlike the research conducted by Cakmak and Tas (2012), which examined the effect of digital capabilities on competitive advantage, the results of this research indicate that ICT capability has no significant effect on competitive advantage. The results of previous studies conducted by Powell and Micallef (1997), showed that information technology has a positive effect on the competitive advantage of an organisation.

The difference in this study from other studies was the sample used. This study uses small businesses as the sample, while previous research (Powell & Micallef, 1997; Maguire et al., 2007; Olatokun & Kebonye, 2010; Cakmak & Tas, 2012; Chibelushi & Trigg, 2012; Harrigan et al., 2012; Higón, 2012; Adeniran & Johnston, 2014; Kadadevaramath et al., 2015; Adeniran & Johnston, 2016; Yunis et al., 2017), examined large companies. Therefore, there are differences in the role of resources that can create a competitive advantage. In small business, the capability must be able to become a resource that can be the beginning of the formation of corporate excellence. Capability of entrepreneurs can identify highly competitive market opportunities and make small businesses more adaptable to the conditions in their business environment.

This research shows that the creation of capability in the company must be able to be repeated. This is in accordance with the results of research by Pavlou & Sawy (2006), which states that ICT capability as a company resource cannot be changed directly into the competitive advantage if it cannot be repeated. The market competition that occurs continuously requires companies to be able to deal with the internal and external environmental pressures continuously. Therefore, the capability must be able to reconfigure

and collaborate with other company resources. In such a process it will require the mediation of other variables so that capability can be a resource input for achieving competitive advantage. The mediation variables proposed in this study are entrepreneurial orientation and organisational agility.

The results of this research (H₄) show ICT capability has no significant effect on competitive advantage. This is acceptable because the emphasis in this research is a capability to use ICT not the aspect of information technology, rather the Human Resource Department as an ICT user. The technology used may be already up to date with the latest developments but not necessarily encourage the company's competitive advantage because the users have no capabilities in the operation of ICT.

There is a difference in the meaning between ICT capability and ICT itself. ICT capability is the ability of businesses to utilise digital media/information technology to support the business. Information Technology is a set of technologies used by an organisation to produce, process and disseminate information in every form. Therefore, information technology provides support for company operations.

The results are confirmed in the publication of OECD 2004, which stated that a weaknesses of small businesses lies in the limited capability and aggressiveness either from the owners or from small business workers to maximise business opportunities by utilising digital media. There are several factors that can hinder internet usage in small businesses including: the incompatibility of business processes; limited knowledge in terms of internet use; limited managerial skills in internet use; limited number of computers and internet connections; lack of trust and security in internet usage; and the high cost of computer development and maintenance (OECD, 2004).

When referring to the data, it can be seen that the media used by traders both in relationships with employees, suppliers, consumers, and customers is dominated by social media. Table 3 shows the data of the respondents using information technology and telecommunication.

Table 3: Data on the respondents of the use of information communication and technology (ICT)

Types of ICT	With Employees	With Suppliers	With Consumers	With Customers
Website	68	68	68	68
Social media (IG, WA, Line, BBM, FB, etc)	267	267	267	267
Phone/SMS	127	127	127	127
Total	462	462	462	462

These results strengthen the previous findings and are in line with the opinions of the previous researchers. Previous research both local and abroad have proven that entrepreneurial orientation influences competitive advantage. Sirivanh et al. (2014), examined the factors that are directly and indirectly related to the growth of SMEs. These factors are entrepreneurial orientation and competitive advantage. The results show that entrepreneurship orientation has a significant effect on competitive advantage.

Mahmood and Hanafi (2013), examined the role of mediating competitive advantage in constructive relationships of entrepreneurial orientation with the performance of SMEs owned by women entrepreneurs. The results showed that entrepreneurship orientation had a significant effect on the performance of women's SMEs, and competitive advantage became the medium to maintain the relationship of entrepreneurship orientation with the performance of women's SME.

In general, all dimensions of entrepreneurial orientation in small businesses of apparel retailers in Pekanbaru, Riau have high dimensional values. This can be understood because small businesses are very likely to take aggressive steps to innovate. According to Porter (2008), aggressive business decisions tend to occur for businesses with low-cost operations. With the low-cost operation, it is more possible for the business owner to be more proactive and dare to take risks independently, without the involvement of other parties.

Based on the results it is proven that the variable of organisational agility influences competitive advantage. Small businesses are currently required to have rapid responses, short product cycles and changes to consumer demand (Uden, 2007). In these conditions, small business organisations need to be faster, more flexible and participatory (Sussan & Johnson 2003), and faster, sharper and tenacious (Yang & Wang 2014). Baker (1996), states that in the perspective of dynamic capability, speed and flexibility in responding to market changes is a form of achieving organisational agility. Speed and flexibility in responding to these market changes can be the heart of dynamic capability (Wang & Ahmed, 2007). Finally, organisational agility is a source of competitive advantage when organisational agility makes it difficult for competitors to compete and imitate (Yaghoobi et al., 2014). Organisational agility is the source of achieving competitive advantage (Wang & Ahmed, 2007).

Conclusion

This research proves empirically that ICT capability does not directly affect the competitive advantage of small businesses. ICT capability in small businesses will affect competitive advantage, only if it is done through organisational agility and or through entrepreneurial orientation. Organisational agility directly affects competitive advantage.



Small-scale apparel retailers need to improve their ICT, especially improve the ICT infrastructure so that their business can reach a wider market not only local but also abroad. In addition, ICT capability helps companies to improve efficiency and effectiveness in business operations, so that small business competitive advantages can be improved. This research confirms the findings of Nowacki (2012), Lee et al. (2016) and Qosasi and Permana (2017), that innovation is absolutely needed in dealing with various situations in the market and maintaining a competitive advantage.

To strengthen the results of this research it is necessary to conduct research in different places and with an expanded population, such as the Indonesian population. To strengthen and confirm the relationship between variables, in order to become a well-established theoretical concept, it is recommended for the next research to use a different choice of dimension even though the locus and focus of the research are the same.

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