

MARKET ORIENTATION, INNOVATION CAPABILITY AND TECHNOLOGICAL CAPABILITY ON BUSINESS PERFORMANCE: A STUDY OF SMEs IN EAST KALIMANTAN PROVINCE, INDONESIA

Achmad Chaidir Febrian¹

¹Ph.D Student in Marketing of Diponegoro University, Indonesia

(chaidir_febrian@yahoo.com)

Augusty Tae Ferdinand²

Lecturer of Economics and Business Faculty at Diponegoro University, Indonesia

(augusty55@gmail.com)

ABSTRACT

The purpose of this study is to examine the influence of market orientation, innovation capability and technological capability on business performance. The problem of the study is how to improve market orientation and performance of SMEs in East Kalimantan province, Indonesia. The sample in this study is SMEs owners or managers in East Kalimantan, consisting of 300 people by using a random sampling method. The data is collected by survey method through interviews and questionnaires. By using structural equation model (SEM), the results of data will be analysed with Amos program to prove whether there is a significant relationship between independent variables to dependent variable in this research.

Keywords: *Market orientation, Innovation capability, Technological capability, Business performance.*

1. Introduction

In Indonesia Small and medium-sized enterprises (SMEs) drive economic development and are essential to local entrepreneurship and innovation. SMEs are also heavily influenced by the macro economic situation. Poor business environment more harm SMEs than large enterprises. The number of SMEs in 2012 is 56.5 million units, growing 15.3 percent from 2006 with total SMEs 49 million units. The contribution of SMEs to GDP in 2012 increased 46 percent to Rp 1.505 trillion from Rp 1.032 trillion in 2006 (Central Bureau of Statistics, 2012).

East Kalimantan province has a Small and Medium Enterprises (SMEs) with a lot of business units. These scattered and divided into several sectors such as: trade, industry, various businesses and services, as well as various non-formal sector. The number of SMEs is bigger than large businesses, but

the contribution is still far from a great effort. These conditions happened because many problems such as: Lack of capital and limited financial access, quality of human resources, business climate, limited facilities and business infrastructure, limited access to markets, lack of access to information.

Research into the market orientation-performance relationship has been conducted in a variety of commercial and non-commercial environments at many different levels of analysis. While most of the research has been conducted in the United States (e.g. Jaworski and Kohli, 1993; Pelham and Wilson, 1996; Ruekert, 1992; Slater and Narver, 1994a), other studies have been conducted in the UK (e.g. Diamontopoulos and Hart, 1993; Greenley, 1995; Pitt et al., 1996), and Japan (Deshpande et al., 1993). In the main, the American research shows a positive association between market orientation and business performance while the

replicative studies done in other countries provide mixed support for this linkage.

According to some experts, Innovation capability (Coombs and Metcalfe, 2000) entails the skills and knowledge needed to effectively absorb, master, and improve existing technologies, and to create new ones (Lall, 1998). It entails the ability to quickly introduce new products and to adopt new processes (Guan and Ma, 2003), involving a wide variety of assets and resources (Sen and Egelhoff, 2000). It is the ability to mold, manage and integrate the different capabilities and resources of the firm to stimulate innovation successfully (Lawson and Samson, 2001) i.e. the firm's ability to react through adaptation of resources to the changing requirements of customers or changing technologies (Wang et al., 2008; Goddard et al., 2010).

Meanwhile, SMEs play important roles in technological advancement and customized products and services (Mulhern, 1995; Teece, 2010) even though, compared to large firms, they are faced with challenges, which include a lack of economies of scale, limited resources and capabilities, smaller market sizes, and a greater vulnerability to market shifts and environmental shocks (Cagliano et al., 2000; Gronum et al., 2012). In sum, the objective of this study therefore is to investigate the role of market orientation, innovation capability and technological capability on business performance at SMEs in East Kalimantan province. The current study's emphasis is designed to provide SMEs in East Kalimantan province more understandable guides to specific market oriented activities.

2. Literature review and hypotheses

2.1 Market Orientation and Performance

Many empirical findings of the market orientation (MO) research have produced complex and mixed results with respect to the relationship between market orientation and business performance (Voss and Voss, 2000). The previous research that predicted a positive relationship between market orientation and performance was using the assumption that a market orientation provides a firm with a better understanding of its environment and customers. The significance of including market orientation in an integrated model of determinants of performance is highlighted by several research findings, which indicate that there is an influence of market orientation on customer orientation, organizational commitment, sales growth, and financial performance and profitability (Pelham and Wilson, 1996; Slater and Narver, 1994; Siguaw, Brown, and Widing, 1994; Jaworski and Kohli, 1993; Narver and Slater, 1990).

H1. Market orientation has a significant relationship with business performance.

2.2 Innovation Capability and Performance

The term of innovation capability has been defined in several ways. According to Neely et al. (2001), an organisation's innovation capability can be described as its potential to generate innovative outputs. Similarly, Lawson and Samson (2001) define innovation capability as "the ability to continuously transform knowledge and ideas into new products, processes and systems for the benefit of the firm and its stakeholders". Innovation capability has been suggested to be a multi-faceted construct. There is no common way of analysis by which to study it, due to the variety of perspectives of innovation management (Perdomo-Ortiz et al., 2006). Innovation capability has also been divided into radical and incremental innovation capability (Sen and Egelhoff, 2000). According to the study of Forsman and Annala (2011) the majority of the SMEs are biased towards incremental innovation development resulting in a variety of innovation types: products, services, processes, production methods and single functions.

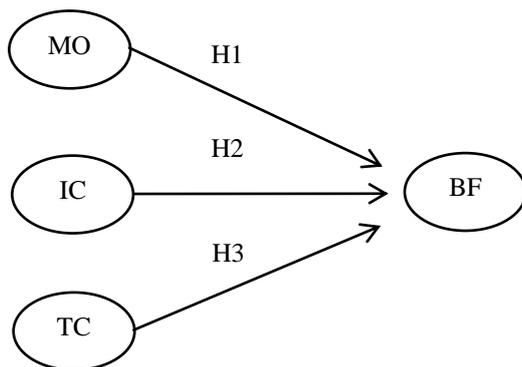
H2. Innovation capability has a significant relationship with business performance.

2.3 Technological Capability and Performance

Technological capability as one of the essential resources to remain competitive in the market. This is parallel to the resource-based view (RBV) theory that acknowledges that firms compete with each other on the basis of resources and capabilities (Wang et al., 2006). RBV theory assumes that sustainable competitive advantage is necessary to survive and thrive (Wang et al., 2006) and can be acquired by firms through accumulating technological capability (Tsai, 2004). Meanwhile, some researchers said that technological capability refers to a firm's ability to develop and apply various technologies to produce new products and services (Zhou and Wu, 2010). As purchasing power in their domestic market increases and customers' preferences diversify, good technological capability helps a firm quickly develop new products that address the evolving preferences of market segments (Li and Calantone, 1998). Technological capability also helps a firm analyze market requirements before competitors can and respond to customers' demands with tailored new products (Day, 1994; Roth and Jackson, 1995).

H3. Technological capability has a significant relationship with business performance.

2.4 Research Model



MO: Market Orientation

IC: Innovation Capability

TC: Technological Capability

BF: Business Performance

3. Research methodology

3.1 Data collection method

The survey of this study is conducted based on a listed questionnaire adopted from previous studies done in the field of market orientation (MO), innovation capability (IC), technological capability (TC) and business performance (BF). Questionnaires will be sent to all owner or manager of SMEs in East Kalimantan province, Indonesia, where each questionnaire that has to be returned to the researcher must be granted the signature of the owner or manager as the legality of this study. These personnel are selected because they are responsible for implementing firms operational and marketing policy at the firm level as well as for guiding and directing the activities of employees toward accomplishing objectives. The researcher will interview the owner or manager and supervised when collect all questionnaires.

3.2 Sampling technique and Measures

The population in this study are all SMEs in East Kalimantan province from 9 city/regency. The sampling uses probability with a simple random sampling method based on the consideration that SMEs have been in operation for at least two years and about 300 SMEs will become targeted questionnaires. Existing measures are used or adapted to suit the purposes of this study. All purified measures are five-point Likert scales anchored by “strongly disagree” and “strongly agree” or “very poor” and “very good”. Indicators of market orientation consist of customer orientation, competitor orientation, and inter-functional coordination. Innovation capability consist of product, process, management and marketing innovation. Technological capability consist of new product line, new technology that has substantially changed the way its main product was produced, and the firm’s technology was more advanced than that of

its main competitors. Business performance is measured by using marketing performance.

4. Data analysis

The analysis for testing the proposed hypotheses is carried out in two stages. In the first stage, the reliability and validity of independent and dependent constructs are evaluated using Cronbach’s alpha coefficients and confirmatory factor analysis (CFA). After reliability and validity are established, we use Amos program to test hypothesis with structural equation model (SEM). Structural Equation Modeling (SEM) has become the most popular and widely used methodology in studies on market orientation (Ngo and ’Cass, 2012); Hooley et al., 2005; Vorhies and Morgan, 2005). As outlined by Byrne (2010), SEM has referential characteristics. First, SEM helps to analyze data for inferential purposes including hypotheses testing. Second, SEM helps to estimate measurement errors related to the measured variables and residual errors related to the endogenous variables. Unlike SEM, however, most multivariate procedures cannot estimate measurement errors. Third, SEM comprises both latent and measured or observed variables in the model unlike the traditional multivariate statistical procedures.

References

- Byrne, B. M., 2010, *Structural equation modeling with AMOS: Basic concepts, applications, and programming*, 2nd ed., Routledge Taylor & Francis Group, New York.
- Central Bureau of Statistics, 2012, “SME Annual Report 2012, Central Bureau of Statistics, Indonesia.
- Cagliano, R., Blackmon, K. and Voss, C. (2000), “Small firms under the microscope: international differences in production/operation management practices and performance”, *Integrated Manufacturing Systems*, Vol. 12 No. 7, pp. 469-482.
- Coombs, R., and Metcalfe, J. S., 2000, “Organizing for innovation: co-ordinating distributed innovation capabilities”, in Foss, N. and Mahnke, V. (Eds), *Competence, Governance, and Entrepreneurship*, Oxford University Press, Oxford, pp. 209-231.
- Day, G. S., 1994, “The capabilities of market-driven organizations”, *Journal of Marketing*, Vol. 58 No. 4, pp. 37-52.

- Deshpande, R., Farley, J. U., and Webster, F.E., 1993, "Corporate culture, customer orientation, and innovativeness in Japanese firms: a quadrad analysis", *Journal of Marketing*, Vol. 57, January, pp. 23-7.
- Diamantopoulos, A., and Hart, S., 1993, "Linking market orientation and company performance: preliminary evidence on Kohli and Jaworski's framework", *Journal of Strategic Marketing*, Vol. 1 No. 2, pp. 93-121.
- Forsman, H., and Annala, U., 2011, "Small enterprises as innovators: shift from a low performer to a high performer", *International Journal of Technology Management*, Vol. 56 Nos2/3/4, pp. 154-171.
- Goddard, E., Entwistle, P., Godman, J., and Strachan, P., 2010, "Beyond stage-gate processes: how to successfully exploit technology in large engineering firms", *International Journal of Technology Intelligence and Planning*, Vol. 6 No. 4, pp. 340-355.
- Greenley, G.E., 1995, "Market orientation and company performance: empirical evidence from UK companies", *British Journal of Management*, Vol. 6, pp. 1-13.
- Gronum, S., Verreynne, M.L. and Kastelle, T. (2012), "The role of networks in small and medium sized enterprise innovation and firm performance", *Journal of Small Business Management*, Vol. 50 No. 2, pp. 257-282.
- Guan, J. and Ma, N. (2003), "Innovative capability and export performance of Chinese firms", *Technovation*, Vol. 23 No. 9, pp. 737-747.
- Hair, J.F., Sarstedt, M., Pieper, T.M. and Ringle, C.M. (2012), "The use of partial least squares structural equation modeling in strategic management research: a review of past practices and recommendations for future applications", *Long Range Planning*, Vol. 45 No. 5, pp. 320-340.
- Hair, J.F. Jr, Hult, G.T.M., Ringle, C. and Sarstedt, M., 2013, *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, Sage Publications, Thousand Oaks, CA.
- Hooley, G.J., Greenley, G.E., Cadogan, J. W., and Fahy J., 2005, "The performance impact of marketing resources", *Journal of Business Research*, Vol. 58, pp. 18-27.
- Jaworski, B.J., and Kohli, A.K., 1993, "Market orientation: antecedents and consequences", *Journal of Marketing*, Vol. 57, pp. 53-70.
- Lawson, B., and Samson, D., 2001, "Developing innovation capability in organisations: a dynamic capabilities approach", *International Journal of Innovation Management*, Vol. 5 No. 3, pp. 377-400.
- Lall, S., 1998, "Technology and human capital in maturing Asian countries", *Science Technology and Society*, Vol. 3 No. 1, pp. 165-186.
- Li, T. and Calantone, R.J., 1998, "The impact of market knowledge competence on new product advantage: conceptualization and empirical examination", *The Journal of Marketing*, Vol. 62 No. 4, pp. 13-29.
- Mulhern, A., 1995, "The SMEs sector in Europe: a broad perspective", *Journal of Small Business Management*, Vol. 33 No. 3, pp. 83-89.
- Narver, J.C. and Slater, S.F., 1990, "The effect of a market orientation on business profitability", *Journal of Marketing*, Vol. 54 No. 4, pp. 20-35.
- Neely, A., Filippini, R., Forza, C., Vinelli, A. and Hii, J., 2001, "A framework for analysing business performance, firm innovation and related contextual factors: perceptions of managers and policy makers in two European regions", *Integrated Manufacturing Systems*, Vol. 12 No. 2, pp. 114-124.
- Ngo, L.V., and O'Cass, A., 2012, "Performance implications of market orientation, marketing resources, and marketing capabilities", *Journal of Marketing Management*, Vol. 28, No 1-2, pp. 173-187.
- Pelham, A.M., and Wilson, D.T., 1996, "A longitudinal study of the impact of market structure, firm structure, strategy, and market orientation culture dimensions of small-firm performance", *Journal of the Academy of Marketing Science*, Vol. 24 No. 1, pp. 27-43.
- Perdomo-Ortiz, J., Gonzaález-Benitoa, J., and Galende, J., 2006, "Total quality management as a forerunner of business innovation capability", *Technovation*, Vol. 26 No. 10, pp. 1170-1185.
- Pitt, L., Caruana, A., and Berthon, P.R., 1996, "Market orientation and business performance: some European evidence", *International Marketing Review*, Vol. 13 No. 1, pp. 5-18.
- Roth, A.V., and Jackson, W.E., 1995, "Strategic determinants of service quality and performance: evidence from the banking

- industry”, *Management Science*, Vol. 41 No. 11, pp. 1720-1733.
- Ruekert, R.W. 1992), “Developing a market orientation: an organizational strategy perspective”, *International Journal of Research in Marketing*, Vol. 9 No. 3, pp. 225-45.
- Siguaw, J.A., Brown, G. and Widing, R.E. II 1994, “The influence of market orientation of the firm on sales force behavior and attitudes”, *Journal of Marketing Research*, Vol. XXXI, pp. 106-16.
- Sen, F.K., and Egelhoff, W.G., 2000, “Innovative capabilities of a firm and the use of technical alliances”, *IEEE Transactions on Engineering Management*, Vol. 47 No. 2, pp. 174-183.
- Slater, S.F., and Narver, J.C., 1994, “Does competitive environment moderate the market orientation-performance relationship?”, *Journal of Marketing*, Vol. 58 No. 1, pp. 46-55.
- Slater, S.F., and Narver, J.C., 1994a, “Does competitive-environment moderate the market orientation-performance relationship?”, *Journal of Marketing*, Vol. 58, January, pp. 46-55.
- Teece, D., 2010, “Technological innovation and the theory of the firm: the role of enterprise-level knowledge, complementarities, and dynamic capabilities”, in Hall, B. and Rosenberg, N. (Eds), *Handbooks in Economics*, Vol. 1, Elsevier Science Publishers, Amsterdam, pp. 679-730.
- Tsai, Kuen-Hung., 2004, The impact of technological capability on firm performance in Taiwan's electronics industry. *The Journal of High Technology Management Research*, 15(2), pp. 183-195.
- Vorhies, D.W., and Morgan, N.A., 2005, “Benchmarking marketing capabilities for sustainable competitive advantage”, *Journal of Marketing*, Vol. 69, pp. 80-94.
- Voss, G.B., and Voss, Z.G., 2000, “Strategic orientation and firm performance in an artistic environment”, *Journal of Marketing*, Vol. 64 No. 1, pp. 67-83.
- Wang, Yonggui, Lo, Hing-Po, Zhang, Quan, & Xue, Youzhi. 2006, How technological capability influences business performance: An integrated framework based on the contingency approach. *Journal of Technology Management in China*, 1(1), 27 -52.
- Wang, C.H., Lu, I.Y. and Chen, C.B., 2008, “Evaluating firm technological innovation capability under uncertainty”, *Technovation*, Vol. 28 No. 1, pp. 349-363.
- Zhou, K.Z. and Wu, F., 2010, “Technological capability, strategic flexibility, and product innovation”, *Strategic Management Journal*, Vol. 31 No. 5, pp. 547-561.