



An Integrative Model of Market Orientation on Innovation Performance

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ABSTRACT

Objective – This paper seeks to provide new insights into the relationship between market orientation and innovation performance by empirically testing the direct effect of market orientation (MO) on innovation performance and exploring the effects of moderation in marketing constructs, namely customer relationship management (CRM) and knowledge management, in these relationships.

Methodology/Technique – This study adopts a cross-sectional research design. Data is collected from export-oriented manufacturing small and medium enterprises (SMEs) in Indonesia. The data is analysed using PLS structural equation modeling.

Findings – Our findings reveal that MO is a significant driver of innovation performance. The results further confirm that CRM plays a moderating role in the interrelation between market orientation and innovation performance. In addition, market orientation and knowledge management have a positive effect on innovation performance.

Novelty – These results prove that the interaction of CRM and knowledge management with market orientation, each have a significant impact on innovation performance. Market orientation behavior more effectively achieves innovation performance in manufacturing SMEs if the MO is interactive with CRM and knowledge management. This research adds new insights to the existing literature and has implications for future research and marketing practices in Indonesia, giving implications for marketing managers and export researchers about managing market orientation, CRM development, and knowledge management.

Type of Paper: Empirical

Keywords: Market Orientation; Customer Relationship Management; Knowledge Management, Innovation Performance.

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JEL Classification: M30, M31, M39.

1. Introduction

The European Union General Data Protection Regulation, regulating the processing and use of personal data in the EU, forces companies to review and upgrade their existing policies, procedures, and practices to ensure compliance (Rodríguez-Doncel et. al., 2016).

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Market orientation as a central concept in marketing and has been the focus of much research (Keskin, 2006; Ozkaya et. al., 2015; Raju, Lonial, & Crum, 2011; Roach, Ryman, & White, 2014). Market orientation representing company resources has become an important agenda in a dynamic marketing environment to identify market opportunities and pursue innovation (Lisboa, Skarmeas, & Lages, 2013; Jiménez-Jimenez, Sanz, & Hernandez-Espallardo, 2008; Al-Ansari, Pervan, & Xu, 2013). Market orientation studies have presented valid measures of constructs (Jiménez-Jimenez, Sanz, & Hernandez-Espallardo, 2008; Wang & Chung, 2013), and studied the consequences of market orientation (Sandvik & Sandvik 2003; Nasution et. al., 2011; Wahyuni, 2019), shows that market orientation can be used as a key strategy to achieve higher innovation performance (Roach, Ryman, & White, 2014; Padilha & Gomes, 2016). The impact of market orientation on innovation performance has been explored in previous studies (Cadogan et. al., 2012). Market orientation has been studied in various parts of the world such as New Zealand (Chung, 2012) and Portugal (Lisboa, Skarmeas, & Lages, 2013). For example, in developed countries such as the United States, market orientation reflects what actions the company wants to do, which determines sources of information that attract companies (Ozkaya et. al., 2015). In the UK, SME market orientation is an organizational culture that is in favor of customers. To be truly innovative, companies must have a market orientation culture. Sharing customer information throughout the organization has a positive effect on the development of new products (Laforet, 2009). It is believed that the practice of customer-centered market orientation (MO) encourages superior innovation performance. In the marketing literature, market orientation is an important element related to business performance (Zhang & Duan, 2010). Theories about market orientation as a corporate culture associated with innovation have developed in the context of values and institutions in the West but may not be ready to practice for emerging markets.

However, there are still several research gaps that need to be filled. First, existing research tends to focus on the direct effect of MO on innovation performance (Sandvik & Sandvik, 2003; Zhang & Duan, 2010). Although the relationship between MO and innovation performance is useful, there are still mixed results regarding the relationship between market orientation and innovation performance. Several studies reveal a significant direct effect on the relationship of market orientation and innovation performance (Sandvik & Sandvik, 2003; Laforet, 2009), while other findings report insignificant results of the direct effect of market orientation on innovation performance (Cadogan et. al., 2012; Keskin, 2006; O'Cass & Heirati, 2015). In manufacturing SMEs, the failure of managers to adopt new ideas and processes has an impact on business performance (Al-Ansari, Pervan, & Xu, 2013). As a result, for companies, export-oriented market orientation behavior may not be beneficial. This creates problems for practitioners and academics.

Knowing customer desires and understanding what competitors do is very important, but the effort required to obtain information relevant to innovation performance requires a series of CRM capabilities (Javalgi et. al., 2006), and knowledge management (Lichtenthaler, 2016). Customer relationship management (CRM) is the main concept in marketing-related efforts to create customer value through relationship development that focuses on key customers and customer segments. CRM refers to the capacity to develop strong relationships with customers potentially increasing the willingness of customers to accept ideas, new information (Nguyen & Waring, 2013), further contributing to improved performance of new products (Ernst et. al., 2011; Chung, 2012).

In this study, the unique feature of marketing (cultural) capability, CRM, is included in the framework of our research, because this feature is the most striking factor that distinguishes a company's capabilities from other companies. Empirical evidence shows that adequate CRM can help companies achieve innovation performance goals (Newby, Nguyen, & Waring, 2014), and facilitate companies implementing market orientation (Javalgi et. al., 2006). Customer knowledge management has become a strategic asset of the company (Lichtenthaler, 2016). Market orientation determines the ability of customer knowledge management (Ozkaya et. al., 2015; Ahimbisibwe et. al., 2016). Recent marketing research has found that customer knowledge management influences business performance through dynamic marketing capabilities

(Falasca et. al., 2017). The way in which MO and interactive knowledge management affect innovation has not yet been examined. This research seeks to answer the following questions:

Q1. To what extent does market orientation improve innovation performance?

Q2 To what extent do interactions between market orientation and CRM allows the company to achieve innovation performance?

Q3 Is knowledge management able to strengthen the relationship between market orientation and innovation performance?

However, there is no empirical research highlighting whether the interaction of market orientation with CRM and CKM strengthens the relationship of market orientation-performance innovation. To fill this research gap, the purpose of this study is to explore the influence of CRM and knowledge on the performance of SME innovations in Indonesia. Our research is expected to make an important contribution to the literature by interactively and simultaneously investigating the relationship between MO, CRM, knowledge management and innovation performance. We hope that market orientation contributions can be optimized when MO also has CRM and knowledge management capabilities. In addition, CRM (Mamun et. al., 2018), and knowledge management (Ozkaya et. al., 2015; Griesse, Pick, & Kleinaltenkamp, 2012) are closely related to RBV theory, so this research also contributes to the development of theories by empirically testing CRM and knowledge management as variables moderating in the relationship of MO-performance innovation in the context of SMEs in Indonesia.

This paper begins with an introduction of the theoretical background of four key research areas: innovation performance, market orientation, CRM, and knowledge management. Next, the development of hypotheses based on theoretical conceptualization and a literature review are presented. Then, the findings of the hypothesis testing based on company samples are reported. Finally, the academic and managerial implications and future research directions are discussed.

2. Theoretical Framework

The notion of market orientation is related to the application of marketing concepts as a business philosophy. The concept of market orientation can be understood from a cultural and behavioral perspective (Keskin, 2006). From a cultural perspective, market orientation is the ability to manage abstract cultural values into tangible behaviors that reflect organizational shared values that place customer value as the primary goal (Slater, 1990; Keskin, 2006; Raju, Lonial, & Crum, 2011). From a behavioral perspective, market orientation is the willingness and ability of organizations to design the process of gathering market information, disseminating, and monitoring the level of organizational commitment to routinely serve customer needs as an example of market orientation behavior (Kohli & Jaworski, 1990; Roach, Ryman, & White, 2014). Market orientation has a high degree of influence on innovation performance (Sandvik & Sandvik, 2003; Padilha & Gomes, 2016). From the perspective of resource-based view (RBV) theory, market orientation is a culture and organizational capability that can provide a competitive advantage (Barney, 2001; Roach, Ryman, & White 2014b), through innovation (Raju, Lonial, & Crum, 2011). Market-oriented companies tend to design and tailor their products, services and processes to suit the evolving tastes and needs of consumers.

Meanwhile, customer relationship management (CRM) is the ability of companies to build and maintain beneficial relationships with target customers influenced by market orientation (Javalgi et. al., 2006). CRM efforts include activities such as building relationships, interacting, intensity of communications, and information sharing which all have an influence on innovation performance (Mamun et. al., 2018). The RBV theory perspective provides the foundation for understanding heterogeneity of resources. The ability to focus on customers is the key to improving new product performance (O'Cass & Heirati, 2015). Furthermore,

knowledge management refers to the ability to create and integrate knowledge resources about customers to increase customer value (Falasca et. al., 2017). Market orientation allows the learning process to occur so that knowledge competency increases (Li & Calantone, 1998; Ozkaya et. al., 2015). High KM tends to improve innovation performance (Griese, Pick, & Kleinaltenkamp, 2012; Falasca et. al., 2017). Resource-based view theory (RBV) is derived from management literature and shows that knowledge is seen as a major resource whereby the ability to use and configure knowledge resources enables companies to improve their competitive advantage and performance (Salama, 2017) (see Figure 1).

3. Conceptual Framework and Hypotheses

3.1 Innovation Performance

A company's most important resource is its ability to produce innovation (Alegre & Chiva, 2008). Innovation performance shows the level of performance in an innovation (Zhang & Duan, 2010; Al-Ansari, Pervan, & Xu, 2013). The pressure of global competition and rapid environmental changes and increasingly shorter product life cycles force companies to observe the performance of their innovations (Padilha & Gomes, 2016; Buli, 2017). Performance is a guide for measuring the level of success (Kayabasi & Mtetwa, 2016). Innovation performance shows the overall achievement of the company from the company's sales (Kayabasi & Mtetwa, 2016). Performance is important for small and medium-sized companies in the pursuit of competitive advantage (Ndubisi & Iftikhar, 2012; O'Cass & Heirati, 2015). Performance indicators of innovation in this study include product development, product lines, product quality, growth, and overall performance (Ozkaya et. al., 2015; Kayabasi & Mtetwa, 2016).

3.2 Market Orientation and Innovation Performance

Marketing concepts play a key role in organizational success by determining the needs, wants, and satisfaction of target markets (Buli, 2017). Market orientation as an implementation of the marketing concept has received a lot of attention from academics and practitioners (Cambra-Fierro, Melero-Polo, & Vázquez-Carrasco, 2013). Market orientation reflects the culture of the company by trying to create superior customer value and explore market trends to provide greater benefits for customers (Mamun et. al., 2018). Hence, market orientation from a cultural perspective reflects the ability to manage abstract cultural values that effectively and efficiently create the behavior needed to produce superior value for buyers. Market orientation practices include gathering information, disseminating information, and responding quickly to market information (Slater, 1990). Several studies have found that market orientation strategies help improve export-oriented innovation performance (Sørensen & Madsen, 2012; Cadogan et. al., 2012; Buli, 2017). Existing literature has determined that market orientation will improve innovation performance (Zhang & Duan, 2010; Padilha & Gomes, 2016). The company's ability to produce and use information and understand and respond to customer desires as a business strategy in creating customer value increases successful product performance. A higher level of market orientation behavior enables companies to understand, develop information generation, disseminate information, implement strategies to meet export-based customer needs and preferences, and be supported by strong response rates that tend to produce high performance. Based on the above, the following hypothesis is proposed:

H1: Companies with higher levels of market orientation behavior tend to have increasingly strong levels of innovation performance.

3.3 The Moderation Effect of Customer Relationship Management

Customer relationship management (CRM) has been widely discussed by academics and marketing practitioners (Ernst et. al., 2011; O'Cass & Heirati, 2015), and is applied in SMEs (Nguyen & Waring, 2013; Newby, Nguyen & Waring, 2014). CRM is related to efforts to create customer value through the

development of relationships that are appropriate for key customers and customer segments. Traditionally, the concept of CRM was seen as a series of strategies, philosophies, systems, and technologies to manage transactions and customer relationships with companies. CRM shows that psychological customer engagement processes and customer connections with companies produce ongoing relationships (Sashi, 2012; Hapsari, Clemes, & Dean, 2017) as non-technical innovations related to marketing capabilities (Cambra-Fierro, Melero-Polo, & Vázquez-Carrasco, 2013). The goal of CRM is to build and maximize customer relationships. CRM focusses on the acquisition of new customers and building and maintaining those relationships through various contacts. CRM consists of the company's focus on consumers, information sharing, customer problem-solving competencies (Lin, Chen, & Chiu, 2010), empowerment (Braun et. al. 2016), multi-channel integration, and creating value. CRM behavior includes the ability to collaborate, interact with consumers, engage in dialogue, exchange information, openness with consumers (Mamun et. al., 2018) and proactively reducing the effects of engagement (Naumann, Lay-Hwa Bowden, & Gabbott, 2017). The level of CRM is determined by market orientation practices (Javalgi, Martin, & Young, 2006; Kayabasi & Mtetwa, 2016). Market-oriented companies are better at CRM capabilities, and this capability drives the performance of new products (O'Cass & Heirati, 2015; Lin, Chen, & Chiu, 2010). Thus, market orientation is an important factor in improving CRM, and CRM is considered a significant factor in improving business performance. Further, CRM is predicted to moderate and strengthen the relationship between market orientation and innovation performance.

Ernst et. al. (2011) examined the top 200 companies in Germany because of the potential of this industry for the benefit of the German National and because of the potential for innovation. The respondents included R&D managers and marketing managers. The findings show that CRM has a positive effect on developing new product performance. The company's ability to collect, analyze, and translate customer information effectively into managerial actions helps develop the company's new products in the future. Research by Mamun et. al. (2018) examined the role of market orientation and customer involvement in the performance of SME-based manufacturing innovations. 360 manufacturing SME managers in Peninsular Malaysia formed the respondent group of that study. The results show that market orientation and the company's ability to engage customers in shared value creation had a significant positive effect on the performance of manufacturing SMEs in Peninsular Malaysia. Based on the RBV theory, this study explains that the company's ability to adopt innovative approaches to managing clients by actively interacting with customers effectively increases the number of customers. In following this logic, it can be explained that high-level CRM capabilities act as a facilitation mechanism, increasing the strength of the relationship between market orientation and innovation performance (Javalgi et. al., 2006). Based on the above, the following hypothesis is proposed:

H2: Increased CRM capability strengthens the relationship between market orientation and innovation performance.

3.4 The Effects of Knowledge Management Moderation

Marketing literature has often discussed the concept of knowledge management capabilities (Eslami & Lakemond, 2016; Lichtenthaler, 2016). Knowledge management refers to the company's strategic ability to manage information and knowledge about its customer desires (Falasca et. al., 2017). The level of knowledge management is determined by market orientation (Lita, 2018). Previous research has found that market orientation as a culture meets the needs and desires of customers in providing value influencing knowledge management (Cambra-Fierro, Melero-Polo, & Vázquez-Carrasco, 2013). Customer knowledge management indicators include market knowledge acquisition, dissemination, application of knowledge, and use of knowledge. Furthermore, the customer knowledge base is used for new product development (Eslami & Lakemond, 2016) so that market demand, stock performance, and revenue performance increases (Falasca et. al. 2017).

Furthermore, the customer knowledge base is used for new product development (Eslami & Lakemond, 2016) so that market demand, stock performance, and revenue performance increases (Falasca et. al., 2017). Hence, this study predicts that market orientation and interaction with knowledge management are considered as significant factors in enhancing innovation capabilities.

Falasca (2017) discusses the role of knowledge management in China's B2B performance. Customer knowledge management supports marketing decision making. Acquisition of customer knowledge through communication activities and understanding between marketing staff and new product development teams, information support between marketing staff and buyers helps companies develop sales programs that meet customer needs (Ozkaya et. al., 2015). Company support in management and knowledge integration through external relations with other parties includes, for example, increasing inventory for new products (Griese, Pick, & Kleinaltenkamp, 2012). The exploration and exploitation of knowledge and the support of technological knowledge support companies to launch new products (Lichtenthaler 2016). Based on the above, the following hypothesis is proposed:

H3: Increased customer knowledge management strengthens the relationship between market orientation and innovation performance.

4. Research Methodology

4.1 Research Design

In this study, a quantitative approach was used with the aim of assessing the effect of market orientation, CRM, and knowledge management on innovation performance. This research was conducted in the Province of Bali, Indonesia. The focus of this research is on export-based manufacturing SMEs to Asia and Europe. The survey questionnaire was completed by export marketing managers who have responsibilities, hold key positions and are managerial decision-makers for their company's export operations.

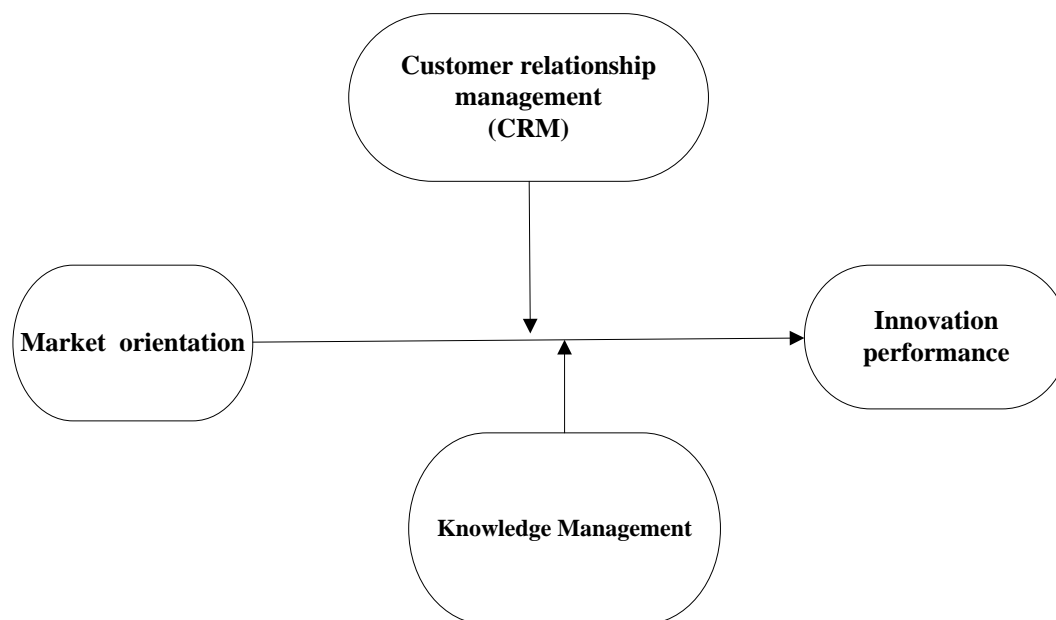


Figure 1. Empirical Research Model

4.2 Population, Sample and Data Collection

This research focusses on export-oriented small and medium enterprises (SMEs) in Indonesia. Representing manufacturing SMEs with selected marketing strategies, the study population consists of export manufacturing SMEs in Bali, totaling 817 export SMEs (Bali Province Industry and Trade Directory, 2018), from the woodcraft sector and textile products. The sample in this study includes managers with a minimum of 3 years of experience, to obtain perceptions, information and knowledge from managers related to market orientation behavior, CRM, knowledge management, and innovation performance. The determination of the number of samples using the provisions of Krejcie-Morgan (1970) was accepted as quoted in Sanusi (2011: 101). The sample size of 138 is considered adequate with the consideration that the research model can be predicted through the determination of 100 samples (Sarstedt et. al., 2014). A stratified sampling was used in this study. Data was collected using a survey method. Personal visits and telephone contact helped the researchers collect key research data. The hypotheses of this study were analyzed using WarpPLS 5.0 (Asad, 2016). The equation for this research model is:

$$Y1 = \beta_0 + \beta_1X1 + \beta_2M1 + \beta_3M2 + \beta_4X1M1 + \beta_5X1M2 + \epsilon_1$$

4.3 Research Variables and Measurement Methods

This research uses four constructs: First, the performance of innovation is operationalized as the company's ability to openly accept new ideas, the process of the project and products as a corporate culture. Thus the performance of innovation is measured using items that include modification capabilities, product line development, uniqueness, and compatibility with market demand, process adoption, collaboration, management involvement, and new ways of managing business, adopted from Zhang and Duan (2010), Padilha and Gomes (2016), Ozkaya et. al. (2015) and Wahyuni, Sara and Amerta (2019). Innovation performance is estimated on a five-point scale (1 strongly disagree; 5 strongly agree).

Second, market orientation reflects the view of market orientation behaviors such as the activity of creating market intelligence including the activity of gathering market information relating to current and future customer needs (O'Cass & Heirati, 2015). Respondents were asked to indicate the extent to which they disagree or agree with statements about market-oriented companies using a five-point Likert scale (1 strongly disagree; 5 strongly agree). Market orientation is measured using 9 items including activities such as information search, information dissemination and responsiveness, which was adopted from Cadogan et. al. (2012).

Third, CRM includes the activities of building and managing customer-company relationships by adopting research conducted by O'Cass & Heirati (2015). Respondents were asked to indicate the level of CRM using 6 items such as intensive communication, engaging customers, trust in customers, sharing demand information, sharing market information, and building interactions. CRM is estimated on a five-point scale (1 strongly disagree; 5 strongly agree).

Finally, knowledge management reflects the ability to produce transformations of information into new knowledge bases. Customer knowledge management uses 6 items adapted from previous research such as initiating creative dialogue, informal dialogue, having knowledge related to strategic goals, coordinating tasks, and examining information-sharing efforts adopted from Wu and Lin (2013) and Falasca et. al. (2017).

5. Results

The study clarified the respondents' international business of exporting to the Asian regions such as Japan, Malaysia, Thailand, America and Australia in the form of handicrafts and textile products.

5.1 Inferential Statistical Analysis Inferential

Statistics help determine whether the results obtained from a sample can be generalized to a population. Therefore, in this study, inferential statistical analysis is measured using a PLS program that starts from the measurement model (outer model), structure model (inner model), and hypothesis testing (Asad, 2016).

5.2 Outer Model

We use partial least square (PLS) as an estimation approach for several reasons. First, PLS is recommended for predictive research (i.e. theory development), rather than confirmation research. Second, PLS considers all path coefficients simultaneously, so PLS allows direct paths and interactions (moderation). This study adopts SEM-PLS path analysis as the main statistical analysis method (Sarstedt, Ringle, Smith, & Hair, 2014). Table 1 shows all items used to measure each construct of predator variables, moderator and dependent variables show the outer model by looking at convergent validity (loading factor) above 0.60, and reliability with results Cronbach's Alpha above 0.70 indicates all research instruments are valid and reliable. The research data is processed using PLS (Partial Least Square).

5.3 Inner Model

The structural model testing in this study is carried out by evaluating the structural model (inner model) to examine the relationship between the constructs that occur and the significant value. Testing the inner model is, in essence, testing the hypothesis in research. Hypothesis testing is done by t-test (T-statistic) on each path of direct influence partially. The results of the SEM analysis at the same PLS approach direct effect hypothesis testing results are shown in Table 2.

Table 1. Convergent Validity and Composite Reliability

Construct	Item	Factor Loading	Cronbach's Alpha	References
Market orientation (MO)	Conducting market research	0.765	0.734	Wei et. al. (2012); Cadogan et. al. (2012)
	Meeting with customers	0.735		
	Interact discussing satisfaction	0.816		
	Submission of information quickly	0.687	0.678	Srivastava (2016); Sandvik and Sandvik (2003); Wahyuni et. al. (2018)
	Independent competitor intelligence	0.681		
	Regular meetings discussing the future	0.840		
	Rapid response to information	0.753	0.676	O'Cass and Ngo (2007)
	Rapid adaptation of business-related changes	0.823		
	Review ongoing product development efforts	0.830		
Customer relationship management (CRM)	Involving customers	0.888	0.705	O'Cass and Heirati (2016); Newby (2014)
	Intensive communication	0.756		
	Building interactions	0.862		
	Building trust	0.799		
	Sharing market information	0.843		
	Sharing information with customers informational	0.704		
	Communication intensity	0.833		
Knowledge	Informal dialogue	0.799	0.855	Ahimbisibwe

management	Start a creative dialogue	0.808		(2016); Wu and Lin (2013)
	Coordination of tasks to collect data	0.811		
	Checking knowledge sharing efforts	0.779		
	to Evaluate information	0.832		
	Abilitydefining the goals of	0.887		
Innovation performance	Capable modification product	0.701	0.709	Padilha dan Gomes (2016); Zhang and Duan (2010)
	Match product	0.833		
	Development product line	0.792		
	product uniqueness	0.824		
	Adoption of the new elements of production	0.612	0.753	2015); Kayabasi and Mtetwa (2016)
	Collaboration of ideas	0.813		
	New management	0.818		
	Creativity of operating methods	0.762		

Table 2. Direct Effect Test Results and Moderation Effects

Relationship Between Variables	Path Coefficient	P-value	Description
<i>Direct effect variable</i>			
Market orientation (X1) → Innovation performance (Y)	0.378	0.000	Significant
<i>Interactions</i>			
X1M1 → Innovation performance (Y)	0.366	0.000	Significant
X1M2 → Innovation performance (Y)	0.301	0.000	Significant

Table 2 shows the results of testing the inner model and reveals that testing the direct effect between market orientation (X1) on innovation performance (Y), obtained values structural coefficient of 0.378, with a p-value of 0.000 <0.05. The coefficient is structurally positive, which indicates that the relationship between the two is positive. That is, the stronger the market orientation behavior (X1), the higher the performance of innovation (Y) will be, supporting H1. Next, we also test the effect of CRM moderation on the relationship between MO and innovation performance, following the suggested approach (O'Cass & Heirati, 2015). The moderating effect occurs when the relationship between the independent-moderation-dependent variable is significant.

Table 2 presents the results of the SEM-PLS analysis which shows an interaction coefficient of 0.366, and a P of 0,000. The P-value <0.05 indicates that Customer Relationship Management (M1) is a moderating variable between the influence of Market Orientation (X1) on Innovation Performance (Y). Due to the direct influence and the interaction effect both significantly affect the Innovation Performance (Y), the Customer Relationship Management variable is considered to be a moderator. Finally, the SEM-PLS analysis results obtained an interaction coefficient of 0.301 and P of 0,000. A P-value <0.05 indicates that knowledge management (M1) is a moderating variable between the influence of market orientation (X1) on innovation performance (Y). Due to the direct influence and the interaction effect both significantly affect the performance of innovation (Y), the knowledge management variable is considered to be a partial moderator.

4.4 Discussion and Implications

Table 2 shows that market orientation has a positive effect on innovation performance ($\beta = 0.378$). This finding is similar to the previous findings by Padilha (2016). From the descriptive analysis, the strongest indicator is a regular indicator of meeting for the sake of meeting the needs and values of customers (LF = 0.840). This situation implies that in the context of export manufacturing small and medium enterprises

(SMEs), the stronger the leader meets to discuss market information, responds to information, and adopts changes in customer desires, the higher the innovation performance. The results of this study broaden the scope of previous studies (Raju, Lonial, & Crum, 2011; Sørensen & Madsen, 2012; Padilha & Gomes, 2016).

Furthermore, Table 2 shows the results of market orientation and CRM interaction with positive interaction coefficient ($\beta = 0.366$), Customer Relationship Management (M1) is said to be strong. The results reveal that improving CRM strengthens the relationship between market orientation and innovation performance. This new result illustrates a new moderation factor within the framework of MO-performance innovation, in addition to business ties as a moderate relationship (Chung, 2012; Wang & Chung, 2013). Companies tend to have a high level of innovation performance when they can practice market orientation and interact with the ability of long-term customer relationships (CRM). Descriptive analysis of CRM shows that the strongest indicator reflecting CRM is building customer-company interaction (LF = 0.862). This implies, the ability of management to build interaction and maintain communication with customers as a market database, strengthen the company's efforts to understand the needs of customers according to trends, so that efforts to adopt ideas, processes, product modifications, and efforts for management involvement are increasingly high.

Meanwhile, Table 2 shows the value of the interaction coefficient of market orientation and knowledge management (M2) on the performance of innovation is significantly positive ($\beta = 0.301$). Alignment between market orientation and customer knowledge management has a positive effect on innovation performance. Descriptive analysis of knowledge management shows that the strongest indicator of knowledge management is an indicator of the ability to define marketing objectives based on information and knowledge collected and managed. This situation indicates that the ability of managers to collect, manage and utilize knowledge strengthens the culture and behavior of market orientation so that innovation performance strengthens.

The research findings provide implications for adopting CRM and knowledge management about the implementation of marketing concepts so as to enhance innovation capabilities. Export of manufacturing SMEs. Future research must consider this new moderation in their research model.

5. Conclusion

The main objective of this study is to examine how market orientation mechanisms affect innovation performance, examining the role of CRM moderation and knowledge management in the relationship of market performance orientation to innovation. This research is also designed to explore how market orientation influences innovation performance. Based on the findings of this study, the authors identified several important findings. First, innovation performance is important in marketing management. Innovation performance is influenced by market orientation. Companies must give a positive value on market orientation because anything related to market orientation practices contributes positively to innovation performance. The results of this study provide new directions for research on market orientation from the SME export context which can predict the performance of innovation (Zhang & Duan, 2010). This study suggests that marketing plans implemented in the form of market orientation practices should be made explicit and shared throughout the company. Managers must focus on customers, listen to, gather and disseminate market information (Ndubisi & Iftikhar, 2012), set target customers for value creation so that product development and processes that respect the environment increase.

Second, in this study, we reveal the role of CRM moderators and their interactions with market orientation to improve innovation performance. CRM can strengthen the relationship between market orientation and innovation performance. The right CRM interaction strategy with market orientation must be applied to support innovation performance. This empirical study reveals that CRM can improve the relationship between market-performance orientation innovation. In addition to the managerial ties that have been reported in the literature (Chung, 2012), CRM is certainly a moderating factor for market-performance-oriented innovation relations. The findings of this study confirm the manager's ability to build high customer

relationship management, strengthen the relationship between market orientation and innovation performance (O'Cass & Heirati, 2015; Mamun et. al., 2018).

Third, the appropriate knowledge management interaction strategy with market orientation supports the achievement of innovation performance. The empirical studies reveal MO-KM, These findings provide important confirmation about the role of market orientation interaction and knowledge management to improve innovation performance (Ozkaya et. al., 2015; Falasca et. al., 2017). The findings of this new research reveal the role of moderation of knowledge management in the relationship of market orientation-innovation performance. The knowledge management function and its interaction with market-oriented manager behavior that is able to strengthen the MO-performance innovation relationship broadens the implications for practitioners and academics. The findings of this study serve as a starting point for further research. Because this research model is simple, future research must use other constructs and consider other contexts to confirm the application of findings to the broader manufacturing context.

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References

- Ahimbisibwe, G. M., Nkurunziza, G., & Nyamuyonjo, D. (2016). Knowledge absorptive capacity: do all its dimensions matter for export performance of SMEs?. *World Journal of Entrepreneurship, Management and Sustainable Development*, 12(2), 139-160. <https://doi.org/10.1108/WJEMSD-09-2015-0041>
- Al-Ansari, Y., Pervan, S., & Xu, J. (2013). Innovation and business performance of SMEs: the case of Dubai. *Education, Business and Society: Contemporary Middle Eastern Issues*. <https://doi.org/10.1108/EBS-04-2013-0012/>
- Alegre, J., & Chiva, R. (2008). Assessing the impact of organizational learning capability on product innovation performance: An empirical test. *Technovation*, 28(6), 315-326. <https://doi.org/10.1016/j.technovation.2007.09.003>
- Asad, M., Sharif, M. N., & Hafeez, M. (2016). Moderating effect of network ties on the relationship between entrepreneurial orientation, market orientation, and performance of MSEs. *Paradigms: A Research Journal of Commerce, Economics, and Social Sciences*, 10(2), 69-76. <https://doi.org/10.24312/paradigms100207>
- Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of management*, 27(6), 643-650. <https://doi.org/10.1177/014920630102700602>
- Braun, C., Batt, V., Bruhn, M., & Hadwich, K. (2016). Differentiating customer engaging behavior by targeted benefits—an empirical study. *Journal of Consumer Marketing*. <https://doi.org/10.1108/JCM-02-2016-1711>
- Buli, B. M. (2017). Entrepreneurial orientation, market orientation and performance of SMEs in the manufacturing industry. *Management Research Review*. <https://doi.org/10.1108/MRR-07-2016-0173>
- Combe, I., Cadogan, J. W., Sundqvist, S., Puumalainen, K., & Salminen, R. T. (2012). Strategic flexibilities and export performance. *European Journal of Marketing*. <https://doi.org/10.1108/03090561211248107>
- Cambra-Fierro, J. J., Melero-Polo, I., & Vázquez-Carrasco, R. (2013). Customer engagement: Innovation in non-technical marketing processes. *Innovation*, 15(3), 326-336. <https://doi.org/10.5172/impp.2013.15.3.326>
- Chung, H. F. (2012). Export market orientation, managerial ties, and performance. *International Marketing Review*. <https://doi.org/10.1108/02651331211242638>
- Ernst, H., Hoyer, W. D., Krafft, M., & Krieger, K. (2011). Customer relationship management and company performance—the mediating role of new product performance. *Journal of the academy of marketing science*, 39(2), 290-306. <https://doi.org/10.1007/s11747-010-0194-5>
- Eslami, M. H., & Lakemond, N. (2016). Knowledge integration with customers in collaborative product development projects. *Journal of Business & Industrial Marketing*. <https://doi.org/10.1108/JBIM-05-2014-0099>
- Falasca, M., Zhang, J., Conchar, M., & Li, L. (2017). The impact of customer knowledge and marketing dynamic capability on innovation performance: an empirical analysis. *Journal of Business & Industrial Marketing*. <https://doi.org/10.1108/JBIM-12-2016-0289>

- Geigenmüller, A., Griese, I., Pick, D., & Kleinaltenkamp, M. (2012). Antecedents of knowledge generation competence and its impact on innovativeness. *Journal of Business & Industrial Marketing*. <https://doi.org/10.1108/08858621211251479>
- Nguyen, T. H., & Waring, T. S. (2013). The adoption of customer relationship management (CRM) technology in SMEs: An empirical study. *Journal of Small Business and Enterprise Development*, 20(4), 824-848. <https://doi.org/10.1108/JSBED-01-2012-0013>
- Hapsari, R., Clemes, M. D., & Dean, D. (2017). The impact of service quality, customer engagement and selected marketing constructs on airline passenger loyalty. *International Journal of Quality and Service Sciences*. <https://doi.org/10.1108/IJQSS-07-2016-0048>
- Javalgi, R. R. G., Martin, C. L., & Young, R. B. (2006). Marketing research, market orientation and customer relationship management: a framework and implications for service providers. *Journal of Services Marketing*. <https://doi.org/10.1108/08876040610646545>
- Javalgi, R. R. G., Martin, C. L., & Young, R. B. (2006). Marketing research, market orientation and customer relationship management: a framework and implications for service providers. *Journal of Services Marketing*. <https://doi.org/10.1108/08876040610646545>
- Jiménez-Jimenez, D., Valle, R. S., & Hernandez-Espallardo, M. (2008). Fostering innovation. *European Journal of innovation management*. <https://doi.org/10.1108/14601060810889026>
- Kayabasi, A., & Mtetwa, T. (2016). Impact of marketing effectiveness and capabilities, and export market orientation on export performance. *European Business Review*. <https://doi.org/10.1108/EBR-11-2014-0084>
- Keskin, H. (2006). Market orientation, learning orientation, and innovation capabilities in SMEs. *European Journal of innovation management*. <https://doi.org/10.1108/14601060610707849>
- Kohli, A. K., & Jaworski, B. J. (1990). Market orientation: the construct, research propositions, and managerial implications. *Journal of marketing*, 54(2), 1-18. <https://doi.org/10.1177/002224299005400201>
- Laforet, S. (2009). Effects of size, market and strategic orientation on innovation in non-high-tech manufacturing SMEs. *European Journal of Marketing*. <https://doi.org/10.1108/03090560910923292>
- Li, T., & Calantone, R. J. (1998). The impact of market knowledge competence on new product advantage: conceptualization and empirical examination. *Journal of marketing*, 62(4), 13-29. <https://doi.org/10.1177/002224299806200402>
- Lichtenthaler, U. (2016). Determinants of absorptive capacity: the value of technology and market orientation for external knowledge acquisition. *Journal of Business & Industrial Marketing*. <https://doi.org/10.1108/JBIM-04-2015-0076>
- Lin, R. J., Chen, R. H., & Chiu, K. K. S. (2010). Customer relationship management and innovation capability: an empirical study. *Industrial Management & Data Systems*. <https://doi.org/10.1108/02635571011008434>
- Lisboa, A., Skarmeas, D., & Lages, C. (2013). Export market exploitation and exploration and performance. *International Marketing Review*. <https://doi.org/10.1108/02651331311321972>
- Lita, R. P., & Faisal, R. F. (2018). SME's Performance of Creative Industries Supporting Tourism in Indonesia: Market Orientation, Learning Orientation and Organizational Innovativeness as Determinants. *Academy of Marketing Studies Journal*.
- Al Mamun, A., Mohiuddin, M., Fazal, S. A., & Ahmad, G. B. (2018). Effect of entrepreneurial and market orientation on consumer engagement and performance of manufacturing SMEs. *Management Research Review*. <https://doi.org/10.1108/MRR-04-2017-0102>
- Nasution, H. N., Mavondo, F. T., Matanda, M. J., & Ndubisi, N. O. (2011). Entrepreneurship: Its relationship with market orientation and learning orientation and as antecedents to innovation and customer value. *Industrial marketing management*, 40(3), 336-345. <http://dx.doi.org/10.1016/j.indmarman.2010.08.002>
- Naumann, K., Bowden, J. L. H., & Gabbott, M. (2017). Exploring customer engagement valences in the social services. *Asia Pacific Journal of Marketing and Logistics*. <https://doi.org/10.1108/APJML-08-2016-0144>
- Ndubisi, N. O., & Iftikhar, K. (2012). Relationship between entrepreneurship, innovation and performance. *Journal of Research in Marketing and entrepreneurship*. <https://doi.org/10.1108/14715201211271429>
- Newby, M., Nguyen, T. H., & Waring, T. S. (2014). Understanding customer relationship management technology adoption in small and medium-sized enterprises. *Journal of Enterprise Information Management*. <https://doi.org/10.1108/JEIM-11-2012-0078>

- O'Cass, A., & Heirati, N. (2015). Mastering the complementarity between marketing mix and customer-focused capabilities to enhance new product performance. *Journal of Business & Industrial Marketing*. <https://doi.org/10.1108/JBIM-07-2012-0124>
- O'Cass, A., & Ngo, L. V. (2007). Market orientation versus innovative culture: two routes to superior brand performance. *European Journal of Marketing*. <https://doi.org/10.1108/03090560710752438>
- Ozkaya, H. E., Droge, C., Hult, G. T. M., Calantone, R., & Ozkaya, E. (2015). Market orientation, knowledge competence, and innovation. *International Journal of Research in Marketing*, 32(3), 309-318. <http://dx.doi.org/10.1016/j.ijresmar.2014.10.004>.
- Padilha, C. K., & Gomes, G. (2016). Innovation culture and performance in innovation of products and processes: a study in companies of textile industry. *RAI Revista de Administração e Inovação*, 13(4), 285-294. <https://doi.org/10.1016/j.rai.2016.09.004>
- Raj, R., & Srivastava, K. B. (2016). Mediating role of organizational learning on the relationship between market orientation and innovativeness. *The Learning Organization*. <https://doi.org/10.1108/TLO-09-2013-0051>
- Raju, P. S., Lonial, S. C., & Crum, M. D. (2011). Market orientation in the context of SMEs: A conceptual framework. *Journal of Business Research*, 64(12), 1320-1326. <http://dx.doi.org/10.1016/j.jbusres.2010.12.002>.
- Roach, D. C., Ryman, J., & White, J. (2014). Culture, conduct and innovation: a deconstruction of market orientation. *Journal of Research in Marketing and Entrepreneurship*. <http://dx.doi.org/10.1108/JRME-01-2014-0002>
- Sanusi Anwar. (2011). *Business Research Methodology*. Salemba Empat Publisher. Jakarta.
- Salama, I. E. E. (2017). The impact of knowledge management capability, organizational learning, and supply chain management practices on organizational performance. *The Business & Management Review*, 8(5), 37-51. https://cberuk.com/cdn/conference_proceedings/conference_87747.pdf
- Sandvik, I. L., & Sandvik, K. (2003). The impact of market orientation on product innovativeness and business performance. *International journal of Research in Marketing*, 20(4), 355-376. <https://doi.org/10.1016/j.ijresmar.2003.02.002>
- Sarstedt, M., Ringle, C. M., Smith, D., Reams, R., & Hair Jr, J. F. (2014). Partial least squares structural equation modeling (PLS-SEM): A useful tool for family business researchers. *Journal of Family Business Strategy*, 5(1), 105-115. <https://doi.org/10.1016/j.jfbs.2014.01.002>
- Sashi, C. M. (2012). Customer engagement, buyer-seller relationships, and social media. *Management decision*. <https://doi.org/10.1108/00251741211203551>
- Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *Journal of marketing*, 54(4), 20-35. <https://doi.org/10.1177/002224299005400403>
- Sørensen, H. E., & Madsen, T. K. (2012). Strategic orientations and export market success of manufacturing firms. *International Marketing Review*. <https://doi.org/10.1108/02651331211242647>
- Wahyuni, Ni Made. 2019. "The effect of competence produces knowledge as a mediating effect of market orientation on the innovation of Textile SMEs in Bali." *Matrix: Journal of Management, Business Strategy and Entrepreneurship* 13 (1): 47–55. <https://doi.org/10.24843/MATRIK:JMBK.2019.v13.i01.p12>.
- Wahyuni, N. M., Sara, I. M., & Amerta, I. M. S. (2019, February). Effect of Market Orientation and Competence of Knowledge on Innovation. In 5th Annual International Conference on Management Research (AICMaR 2018). Atlantis Press. <https://doi.org/10.2991/aicmar-18.2019.34>
- Wang, C. L., & Chung, H. F. (2013). The moderating role of managerial ties in market orientation and innovation: An Asian perspective. *Journal of Business Research*, 66(12), 2431-2437. <http://dx.doi.org/10.1016/j.jbusres.2013.05.031>.
- Wei, Y., Frankwick, G. L., & Nguyen, B. H. (2012). Should firms consider employee input in reward system design? The effect of participation on market orientation and new product performance. *Journal of Product Innovation Management*, 29(4), 546-558. <https://doi.org/10.1111/j.1540-5885.2012.00924.x>
- Wu, Li Wei, and Jwu Rong Lin. 2013. "Knowledge Sharing and Knowledge Effectiveness: Learning Orientation and Co-Production in the Contingency Model of Tacit Knowledge." *Journal of Business and Industrial Marketing* 28(8): 672–86.
- Zhang, J., & Duan, Y. (2010). Empirical study on the impact of market orientation and innovation orientation on new product performance of Chinese manufacturers. *Nankai Business Review International*. <https://doi.org/10.1108/20408741011052609>