

Influence of Competitor and Customer Orientation on Marketing Performance through IT Competence in Chinese SMEs

Yu, Jiatong* · Moon, Tae-Soo**

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I. Introduction

Most of enterprises have achieved various kind of business automation and transformation by using information technology (IT). Promoted by the increasing centrality of IT to business performance, a rich body of literature has described on management practices that affect the quality and range of IT's impacts

(Fateme et al., 2016). At present, many scholars have put forward various opinions on the effect of enterprise IT management. The contemporary view is that this can be achieved by implementing a holistic set of structures, processes, and relational mechanisms(Huang et al., 2010). Firms are increasingly investing in advanced firm-level information technologies to improve synchronization and integration

* Cooperative Dept. of Techno-Management, Dongguk University, First Author

** School of Management, Dongguk University, Corresponding Author

across the entire business process (Neneh et al., 2018). Significant investments in information technology (IT) are made every year for improving business speed-up. These investments may be a result of the rapid change in the environment. Such firms are making these investments to help to cope with such changes in IT investment (Kim et al., 2011).

Market orientation (MO) as a philosophy and practice in marketing products and services has been adopted by many researchers, since the first was introduced by Kohli et al. in 1990 (Ristiyanti et al., 2019). The goal of MO is to deliver a superior value proposition to the customer based on the insights from customer and the analysis of competitors (Gounaris et al., 2012). According to Baker et al. (2009) that define market orientation by measuring customer orientation and competitor orientation, and then disseminate observations of customers and competitors to continuously improve product value. We decide to focus on the customer orientation and competitor orientation. In the small and medium enterprises (SMEs), both service people in the operational as well as the high rank decision makers realize the importance of MO and even excellent customer-staff interaction in gaining new customers and retaining profitable customers. Consequently, the research question is to accomplish the objectives of this research as following: 1) how the Chinese SMEs

monitor the customer orientation and competitor orientation to respond to continuous change of product value caused by the changing environment, 2) does IT competence have a positive impact on market performance?

In fact, despite the notion that IT competence can contribute to firm's marketing performance, the nature and implications of the integration of marketing and information technology have not been empirically investigated for a long time in the literature (Wilden et al., 2015, Choi et al., 2017, Park et al., 2017). And it has not yet been examined within the emerging developing countries like Chinese SMEs context specifically. Through the empirical study for emphasizing the relationship between market orientation and marketing performance, we will suggest the research framework to contribute to research results with empirical evidence. This study examines the roles of firm-level IT competence in the relationship between marketing orientation and marketing performance in the context of Chinese SMEs. To achieve this goal, this study presents and empirically tests a model of how competitor orientation and customer orientation can be exploited to positively influence marketing performance through IT competence.

II. Literature Review

2.1 Market Orientation of Chinese SMEs

According to the Global Alliance of SMEs report (<http://www.globalsmes.org/>), SMEs have created 50% of the global GDP of a country or region, about 50% of international trade, and about 40% of foreign direct investment, more than 90% of employment opportunities and more than 50% of technological inventions. It can be said that more than 50% of the world's wealth is created by SMEs. SMEs are the stabilizers of world economic development, and are the promoters of world science and technology innovation. Therefore, SMEs are an important part of the modern national economy, with a broad socio-economic foundation. According to the McKinsey Global Institute report, from 2000 to 2017, the world's comprehensive dependence index on Chinese economy gradually increased from 0.4 to 1.2, and China contributed 35% of the total global manufacturing output. According to World Bank data, China contributed 31% of global household consumption growth from 2010 to 2017.

Chinese SMEs are growing rapidly in the global environment, and they are responding to the development of global industrial chain and technology. According to China Industry Research Network (<http://www.cir.cn>) in 2019,

from market research and development trend forecast analysis by 2018, Chinese SMEs accounted for 99.7% of the total number of enterprises in the country, providing more than 80% of urban jobs, creating final products and services equivalent to 60% of GDP, and paying profits and taxes accounted for 50%. In addition, 65% of Chinese invention patents, more than 75% of enterprises' technological innovation and more than 80% of new product development are all completed by Chinese SMEs. Therefore, this study will take Chinese SMEs as the research object to examine the roles of firm-level IT competence in the relationship between marketing orientation and marketing performance, which has a higher practical significance.

Since the reform and opening up, China has gradually shifted from a planned economy to a socialist market economy, and enterprises have gradually shifted from simple production workshops to autonomous economic entities. Business activities of enterprises have gradually shifted from fulfilling the tasks assigned by their superiors to seeking the opportunities for survival and development in the market. Firms have gradually introduced market mechanism, from focusing on production in the past to focusing on business plans according to customers' needs. Marketing is playing a more and more important role in firm management. At the same time, many firms hope to improve their organizational

performance by strengthening organizational IT competence. Market orientation is an approach to business that prioritizes identifying the needs and desires of consumers and creating products that satisfy them (<https://www.investopedia.com>).

Scholars have done a lot of empirical research on whether and how market orientation affects organizational performance, and so far there is no conclusion. Many people believe that market-oriented organizational culture is the key factor for enterprises to gain competitive advantage. In recent years, many scholars have joined the empirical ranks of this proposition, but it is still a problem that needs to be further clarified. In the period of transition economy, do market-oriented enterprises have better corporate performance? Academic circles have not published empirical results based on data from the mainland of China, that is to say, Chinese enterprises advocate market-oriented business philosophy with certain blindness, lack of strict scientific basis or empirical basis.

As a new industrialized country, many industries in China have just started. Faced with the background of economic internationalization, market globalization and accelerated technological progress, how does the market orientation and IT capability of Chinese SMEs affect their business performance? Is the relevant academic papers suitable for China? This is not only an

academic issue, but also a practical process of enterprises. The problems that need to be solved urgently are the basis and starting point of the theory and technology of enterprise marketing strategy and organization management. Its conclusion has important theoretical and practical significance. This paper intends to take small and medium-sized enterprises in the mainland of China as the object of investigation and make an empirical study of these problems. This will make up for the lack of relevant research, further improve the relevant theory, and provide guidance for the practice of Chinese SMEs.

2.2 IT competence

The world is experiencing a new era of information technology. In the context of Industry 4.0, the development of information technology has become an important factor in the development of the national economy and enterprises. The development of information technology not only brings opportunities to enterprises, but also brings many challenges. Because digitalization challenges almost all traditional processes while changing the market, competition and internal operation of enterprises. Therefore, in the impact of enterprises orientation on performance, IT competence are undoubtedly of great significance. Considering the previous research on enterprises marketing, most of them are

driven by competitors or customer orientation. Therefore, this study uses IT competence as a mediator variable to empirically analyze the impact of competitor or customer orientation on marketing performance.

Firms must have real-time internal information about their finances, manpower, production and products. And they need external information about the environment in which they operate – competitors, customers, suppliers, etc. – that helps them to get to know their customers and satisfy them immediately and effectively, and so gain sustainable competitive advantages (Fatemeh et al., 2016). IT competence is a firm's ability to acquire, deploy, combine, and reconfigure IT resources in support and enhancement of business strategies and work processes (Sambamurthy et al., 2000). IT competence has been consistently investigated as an important factor for successful IS adoption and usage (Benitez et al., 2010) because IT is critical in gaining sustainable competitive advantages (Bharadwaj, 2000). Sambamurthy et al., (2000) describe IT competence is the firm's assets, skills, knowledge and processes to help firm acquire, deploy and manage IT products and services and improve business strategies. According to Bhardwaj (2000), IT competence is the ability of a company to deploy IT resources in combination with other capabilities.

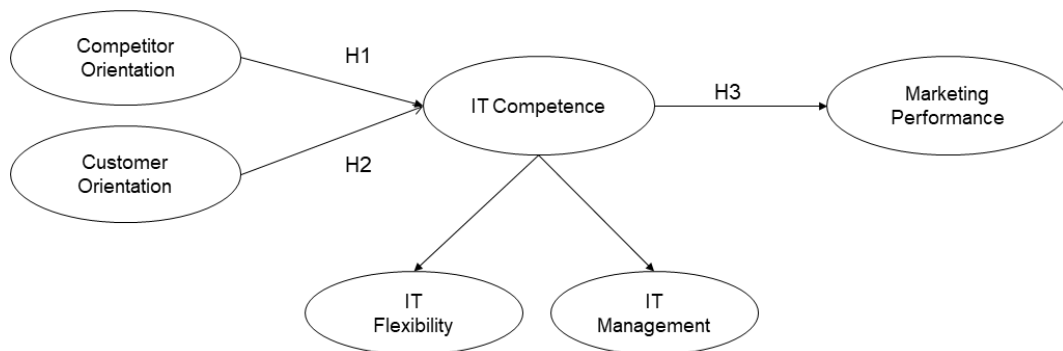
Following Kim et al. (2011), this study

defines IT competency as how the firm uses these technologies to manage its information effectively. While IT is a generic term fundamentally used to refer to programs, computers and telecommunications, the term IT competency is broader and refers to the use of these technologies to satisfy the firm's information needs (Mithas et al., 2011).

In this study we differentiate between two dimensions of this concept: IT flexibility and IT management. These dimensions represent co-specialized resources that indicate the organization's capacity to understand and use the tools necessary for managing information about markets and customers (Ristiyaniti et al., 2019).

III. Research Model and Hypotheses

As IT competence is often assigned to professional jobs involving different functional areas of the organization, it is important to develop a broad professional competence framework, not one designed for a specific set of tasks. In that sense, competence is considered here as unconventional, and embodies the ability to cope with complex and changing environments (Bassellier et al., 2004). To explain how IT competence can benefit both market orientation (competitor orientation and customer orientation) and



<Figure 1> Research model

marketing performance, we develop Fig. 1 depicts this conceptual model. Competitor orientation and customer orientation positively influences IT competence. And IT competence's influence on marketing performance. Here, we develop a framework that reflects the general population of IT competence, that is not tied to a particular category or organization type.

3.1 Competitor orientation and IT competence

Competitor orientation refers to a process whereby firms analyze their existing and potential competitors and try to understand their strengths, weaknesses and long-term strategies, and to develop appropriate counter-measures (Narver et al., 1990; Slater et al., 2000). In the competitive environment, whether an enterprise can do better than its competitors is the key. In a fully competitive environment, if the product difference is small

and the price of the product is close to the marginal cost, the enterprise will not be able to make profits. Competitor orientation emphasizes the trend of focusing on competitors. Its advantages include increasing the competitive advantage of enterprises, improving the current industry structure, helping to develop the market and increasing barriers to entry. In order to avoid the high cost of basic scientific research and new technology development, enterprises often tend to adopt competitors' creativity and technology. This will hinder efforts to redefine product markets with new products and to remain aloof in market competition. Therefore, if the innovation process is driven by competitor focus, enterprises are most likely to develop new products similar to competitor products. When faced with opportunities, competitor-oriented enterprises will tend to adopt competitor's creativity and technology rather than focus on developing their own creativity and technology. Competitor orientation refers

to the ability of firms to improve itself by evaluating and identifying its competitors' strengths and weaknesses, making strategies (Day et al., 1988). Competitor orientation facilitates an evaluation of the progress of rival firms, stimulating a firm to be creative in differentiating its products or services from competitors thereby developing competitive advantage (Huang et al., 2010). Competitor orientation also appears to influence both incremental and radical innovation (Newman et al., 2016). Yu et al. (2019) findings that competitor orientation of enterprises has a positive impact on innovation performance through IT competence. This leads to the hypothesis that:

<H1> Competitor orientation has a positive influence on IT competence.

3.2 Customer orientation and IT competence

Customer-oriented firms make profits by satisfying customer needs. Moreover, customer-oriented firms will make real-time market research, deeply understand customer needs, accurately grasp the changing preferences of customers, and make rapid response to environmental changes. Thus, customer-oriented processes involve many facets, including understanding clients' needs and sharing and aligning information to create

a value proposition that satisfies customers. Researchers argue that customer orientation is not only a set of processes, but a culture that stresses the customer as the center of strategic planning and execution and that is important to create superior value for an organization (Steinman et al., 2000). Customer orientation enhances a firm's new product development, business performance, and the overall creation of customer value (Reed et al., 2016). However, environmental conditions strongly influence its effectiveness (Frambach et al., 2016). Extant studies show contradictory results on the customer orientation-business performance relationship (Auh et al., 2007), which may at least partly be explained by the tradition of considering customer orientation as a unidimensional construct. Distinguishing between its diverse dimensions, which can be managed separately and which potentially have diverse performance implications, might shed further light on the customer orientation-performance relationship and the interplay of its different dimensions (Frambach et al., 2016). Information appears to be the starting point of all the service activities along the "Service Blue Print" (Bitner et al., 2007). Customer orientation is the final result of the whole process to become "a way of thinking and business practice where each decision of the company is in sync with customer's requirements." (Mithas et al., 2011). Lee et al. (2015) also put much emphasis on the back

<Table 1> Operational Definition and Measurement

Construct		Operational Definition	Item		Reference
Market Orientation	Competitor Orientation	A specific firm-level resource that enables firm to focus on competitor changes and take action.	COM1	Our company react quickly to the actions of our competitors.	Trainor et al.(2011)
			COM2	In our company, sales people share a lot of information about the competition.	
			COM3	Our company focus on costumers and market segmentations where our competitors are ahead.	
			COM4	Our top management often discusses the strengths and weaknesses of our competitors.	
	Customer Orientation	A specific firm-level resource that enables firm to focus on market and customer demand changes and take action.	CUS1	Our company regularly follow and analyze the needs of our customer.	Trainor et al.(2011)
			CUS2	Our company objectives are determined by customer satisfaction.	
			CUS3	Our company strategy to achieve a competitive advantage is based on the comprehension of customer needs.	
			CUS4	Our company measure customer satisfaction on regular base.	
			CUS5	Our company strategies have the objective to create as possible for our customers.	
			CUS6	Our company spend a lot of attention towards the after sales service.	
e-Marketing Capability	Sensing	A firm capability to spot, interpret, and pursue opportunities in the environment.	SENS1	Our company to sense opportunities and threats.	Torres et al. (2018)
			SENS2	Our company to identify opportunities for organizational change.	
			SENS3	Our company to be more aware of our environment foresee a wide range of actionable options.	
			SENS4	Our company to identify alternative ways of doing business.	
	Planning	A firm capability to conceive marketing strategies that optimize the match between the firm's resources and its marketing.	PLAN1	Our firm has the ability to define proper marketing goal.	Trainor et al.(2011) Torres et al.(2018)
			PLAN2	Our firm has the ability to develop proper marketing strategy.	
			PLAN3	Our firm has the ability to identify target customer effectively.	
	Responding	A firm capability to responding to customer.	RESP1	Our firm use IT to respond to our competitor's price changes.	Trainor et al.(2011) Torres et al.(2018)
			RESP2	Our firm use IT to pays attention to changes in our customers' products or service needs.	
			RESP3	Our company can well coordinate IT activities in different departments.	
Marketing Performance		The performance of firm in market activities.	MP1	Compared with other companies, our company's sales of our existing customers are increasing.	Hooley et al.(2005)
			MP2	Compared with other companies, our company is better able to get new customers	
			MP3	Compared with other companies, our company's customer satisfaction is higher.	
			MP4	Compared with other companies, our company's sales revenue growth is strong.	
			MP5	Relative to our competitors, our customers are satisfied with our firm.	

stage process in the creation of value and customer satisfaction, way far back to the service planning using the relevant information including information on the business environment and changing wants of the customers. Yu et al. (2019) pointed out customer orientation has a positive impact on marketing CRM performance through social CRM capability. This leads to the hypothesis that:

<H2> Customer orientation has a positive influence on IT competence.

3.3 IT competence and marketing performance

Over the past 20 years, scholars have been working on the value of IT in organizations. Recent IT evaluation researchers have tended to study how IT investments affect company outcomes by transforming business processes. The IT competence of the company has become the key and necessary condition for success in the competitive environment (Huang et al., 2010). Specifically, the firm's IT competency is pictured as providing the fuel from which organizational capabilities can be quickly ignited and in turn indirectly impact the competitive potential of the firm (Mithas et al., 2011). IT flexibility has emerged as a key competitive advantage and an important strategic goal that can potentially influence a

firm's ability to use and reconfigure IT (Ray et al., 2005). The ability to add, modify or remove any system of the infrastructure with no overall effect should enable greater agility in the optimal configuration (Chakravarty et al., 2013). IT flexibility has also been linked to increased levels of strategic alignment under circumstances that require agile and swift responses by the firm (Lee et al., 2015). This demonstrates that a flexible IT infrastructure can facilitate a timely response in terms of IT-based competitive actions, geared towards sustained competitive advantage. In this respect, the IT infrastructure is not only used to support current operations, but is developed on the basis of constant adaptations, or as referred to, a platform for digital options (Reitz et al., 2018).

In congruence with what is also argued by Teece (2007), business units are usually more alert of operational realities, and are therefore better positioned to recognize opportunities and problems that IT solutions can help them address (Sambamurthy et al., 2000). By decentralizing the IT management, business units are empowered to initiate changes that support existing applications or deploy new ones to address emerging opportunities. For instance, a firm may need to incorporate new suppliers to introduce a new product to the market. Such an action would require that efficient coordination mechanisms are established, IT applications that support

collaborative work are deployed, and repositories and structures for storing and disseminating newly acquired or co-developed knowledge are assimilated. Despite IT management decentralization being more efficient and effective in rapidly deploying solutions that match these needs, an absence of a flexible IT infrastructure may diminish a successful reaction (Mikalef, 2014). Therefore, IT management is argued to exert a positive

<Table 1> Operational Definition

Construct		Operational Definition	Item		Reference
Competitor Orientation		A specific firm-level resource that enables firm to focus on competitor changes and take action.	COM1	Our company react quickly to the actions of our competitors.	Trainor et al. (2011)
			COM2	In our company, sales people share a lot of information about the competition.	
			COM3	Our company focus on costumers and market segmentations where our competitors are ahead.	
			COM4	Our top management often discusses the strengths and weaknesses of our competitors.	
Customer Orientation		A specific firm-level resource that enables firm to focus on market and customer demand changes and take action.	CUS1	Our company regularly follow and analyze the needs of our customer.	Trainor et al. (2011)
			CUS2	Our company objectives are determined by customer satisfaction.	
			CUS3	Our company strategy to achieve a competitive advantage is based on the comprehension of customer needs.	
			CUS4	Our company measure customer satisfaction on regular base.	
			CUS5	Our company strategies have the objective to create as possible for our customers.	
			CUS6	Our company spend a lot of attention towards the after sales service.	
IT Competence	IT Flexibility	A firm's ability to handle business through the flexible use of IT Infrastructure.	ITF1	Our company has enough IT Infrastructure.	Reitz et al. (2018)
			ITF2	Our company use IT Infrastructure to share data within and across the firm.	
			ITF3	Our company has enough IT platform connections in business processes.	
	IT Management	A firm's ability of knowledge and experience in managing IT.	ITM1	Our company can operate and manage IS safely and steadily	Reitz et al. (2018)
			ITM2	Our company can operate and maintain relationships through close cooperation with users.	
			ITM3	Our company can solve IS problems quickly.	
Marketing Performance		The performance of firm in market activities..	MP1	Compared with other companies, our company's sales of our existing customers are increasing.	Hooley et al. (2005)
			MP2	Compared with other companies, our company is better able to get new customers	
			MP3	Compared with other companies, our company's customer satisfaction is higher.	
			MP4	Compared with other companies, our company's sales revenue growth is strong.	
			MP5	Compared with other companies, our company has a bigger market share.	

moderating impact in the presence of flexible IT architectures. Overall, the combined effect of alertness by decentralizing IT management, and versatility offered by flexible IT architectures, is posited to enhance a firms' performance.

According to Mills et al. (2011) that IT competence to impact the firm's performance. IT competence enables firms to integrate and support different system components effectively under changing business conditions (Zhang et al., 2016). Kim et al. (2011) show that IT flexibility and IT knowledge have a positive impact on organizational dynamic capabilities. This leads to the hypothesis that:

<H3> IT competence has a positive influence on marketing performance.

IV. Research design

4.1 Operational definition

Preexisting construct measures have been used in this study. The competitor orientation and customer orientation are based on the market orientation construct developed by Trainor et al. (2011). IT competence re based on the market orientation construct developed by Reitz et al. (2018) and the marketing performance are based on the performance construct developed by Hooley et al., (2005).

4.2 Sampling

To test the research model shown in Figure 1, we reviewed the comprehensive literature and compiled a questionnaire through

<Table 2> Sample statistics of responding firms

Item	Category	Frequency	Percentage
Industry	Electricity and electronics	21	21.2
	Machinery/Metal	8	8.1
	Food & Beverage	24	24.2
	Petrochemicals	9	9.1
	ICT	27	27.3
	Automotive industry	6	6.1
	etc.	4	4
Employees	Less than 10	16	16.2
	10-50	64	64.6
	50-100	8	8.1
	100-200	4	4
	More than 200	7.1	7.1
Sales	Less than 1million	18	18.2
	1 million- 5 million	37	37.4
	5 million-10 million	26	26.3
	10 million-20 million	12	12.1
	More than 20 million	6	6.1

interviews with business analysts. To complete the investigation, we conducted a survey in China from February 2019 to April 2019. In order to ensure that the respondents understand the company's marketing activities, this study made a questionnaire survey for the head of marketing department or senior managers of the company. Randomly contacted 150 Chinese SMEs, including SMEs of all sizes and types. Of the companies contacted, 99 provided complete and complete data with a response rate of 66%. Table 2 reports the descriptive statistics for each data set.

V. Data Analysis

5.1 Test of the measurement model

First, we tested the validity and reliability of the measurement model. Table 3 summarizes the validity, reliability for each construct and correlation between constructs. All test statistic values of Cronbach's alpha and composite reliability exceeded the recommended threshold values, 0.80. All factor loadings for own constructs are above 0.7 and average variance extracted (AVE) for each construct exceeded 0.6, thus demonstrating convergent

<Table 3> Factor Loadings, AVE, and Cronbach's Alpha

Factor	Items	Loadings	VIF	AVE	CR	Cronbach's Alpha
Competitor Orientation	COM1	0.794	1.683	0.653	0.883	0.823
	COM2	0.837	1.895			
	COM3	0.807	1.791			
	COM4	0.795	1.645			
Customer Orientation	CUS1	0.788	2.038	0.632	0.911	0.884
	CUS2	0.804	2.202			
	CUS3	0.829	2.378			
	CUS4	0.786	1.924			
	CUS5	0.768	1.819			
	CUS6	0.793	2.074			
IT Flexibility	ITF1	0.833	1.715	0.727	0.889	0.812
	ITF2	0.876	1.989			
	ITF3	0.848	1.731			
IT Management	ITM1	0.862	1.885	0.732	0.891	0.817
	ITM2	0.854	1.770			
	ITM3	0.850	1.782			
Marketing Performance	MP1	0.839	2.225	0.666	0.909	0.874
	MP2	0.819	2.119			
	MP3	0.797	1.926			
	MP4	0.766	1.810			
	MP5	0.854	2.526			

Note: AVE=average variance extracted; CR=composite reliability

<Table 4> Discriminant Validity

	COM	CUS	ITF	ITM	MP
COM	0.834				
CUS	0.808	0.795			
ITF	0.720	0.740	0.853		
ITM	0.726	0.771	0.831	0.855	
MP	0.823	0.790	0.797	0.826	0.816

Note: COM = Competitor Orientation; CUS = Customer Orientation; ITF = IT Flexibility; ITM = IT Management; MP = Marketing Performance

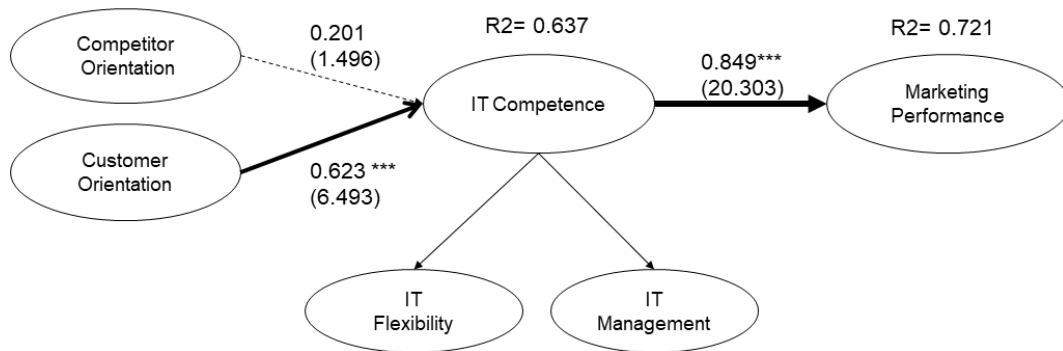
validity (Hair et al., 2014). For the discriminant validity, the square root of AVE were greater than correlations between the constructs (Fornell et al., 1981). Since there are some high cross-loadings between constructs, we conducted another way to assess discriminant validity by checking the difference between the loadings and the cross-loadings. None of the differences in our model was lower than the cut-off value (an acceptable difference is 0.10) (Wixom et al., 2005). The discriminant validity of all constructions is to meet the requirements. In addition, variance inflation factor (VIF) analysis is also carried out to check the multi-collinearity. The VIF values for all of the constructs are acceptable (i.e., between 1.645 and 2.526; less than 5.0) (Gu et al., 2012).

5.2 Test of the structural model

To test our hypotheses, partial least squares (PLS) method was employed. Since our sample size is relatively small (n=99), PLS is a suitable method for our research model (Chin,

1998). Higher-order constructs, IT competence were examined using the hierarchical component approach by assigning all manifest variables of underlying first-order latent variables for second order latent variable.

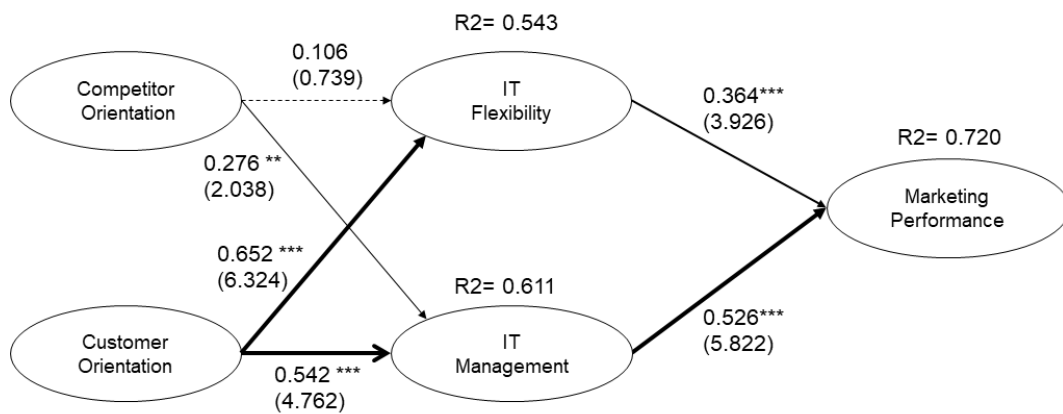
In our study, the of IT competence and marketing performance were 0.637 and 0.721 respectively, which indicates great degree of predictive accuracy. From the Figure 2, we can see H1 indicates that competitor orientation will not positively impact IT competence (0.201; p=0.135). The result is not harmonious with the past studies. H2 indicates that customer orientation positively affects IT competence and this hypothesis is accepted (0.623; p=0.000). It does imply that higher the SME firm's customer orientation will be, higher will be the IT competence. H3 postulates that IT competence positively affects marketing performance and this hypothesis is also accepted (0.849; p=0.000). It does imply that higher the SME firm's IT competence will be, higher will be the marketing performance. Table 5 provides a summary of the results of



<Figure 2> Results of model

Hypothesis	Path	Coefficient	P	T	Result
H1(+)	Competitor Orientation → IT Competence	0.201	0.135 n.s.	1.496	Reject
H2(+)	Customer Orientation → IT Competence	0.623	0.000***	6.493	Accept
H3(+)	Market Orientation → Marketing Performance	0.849	0.000***	20.303	Accept

*** $p < 0.01$, ** $p < 0.05$



<Figure 2> Additional results of the model

hypothesis tests. In short, all hypotheses except H1 are supported.

SRMR is defined as the difference between the observed correlation and the model implied

correlation matrix. Thus, it allows assessing the average magnitude of the discrepancies between observed and expected correlations as an absolute measure of model fit criterion. Hu

et al. (2007) introduce SRMR value less than 0.10 are considered a good fit. Henseler et al. (2014) introduce the SRMR as a goodness of fit measure for PLS-SEM that can be used to avoid model mis specification. In this study SRMR is 0.072, indicates that model fit successfully support the proposed model.

We also conducted the additional analysis of the model. In additional results of the model, the R^2 of IT flexibility, IT management and marketing performance were 0.543, 0.611 and 0.720 respectively. From the Figure 3, we can see competitor orientation will not positively impact IT flexibility (0.106; $p=0.460$), but positively impact IT management (0.276; $p=0.042$). Customer orientation positively affects IT flexibility (0.652; $p=0.000$) and IT management (0.542; $p=0.000$). IT flexibility positively affects marketing performance (0.364; $p=0.000$). And IT management positively affects marketing performance (0.526; $p=0.000$). In the additional results of the model, the SRMR is 0.088, which is larger than the previous model (0.072). So the previous second order model is more suitable.

VI. Discussion and Conclusion

6.1 Theoretical implications

This study has several theoretical

contributions. First, this study is one of the attempts to examine the concept of competitor orientation, customer orientation, IT competence and performance in China, although these concepts have been widely applied in developed countries. Most importantly, our integrative model is the first to examine the role of market orientation in business performance through IT competence. The findings indicate that customer orientation is antecedents to IT competence, while competitor orientation has no significant relationship with IT competence. This result supports the theoretical literature and is consistent with previous empirical research. The findings indicate that customer orientation is antecedents to IT competence, while competitor orientation has no significant relationship with IT competence. This result supports the theoretical literature and is consistent with previous empirical research.

Second, IT competence in this study has significant positive impact on performance. Establishing customer-oriented business process and incorporating customers into the business process model of enterprises means that enterprises can improve business capabilities and enhance competitiveness through IT competence. Thus, this study provided a better understanding of the connection between IT competence and firm performance with empirical evidence.

In detail, competitor orientation has no

significant positive impact on IT competence for the following reasons: as we know that in the early stages of a market, the first entrants usually have some scarce resources (technology patents or raw material monopolies, etc.). The most sensible way for later entrants is to imitate, so business strategy at this time is generally competitor orientation. Later, with the reduction of technical barriers, the market gradually developed into a fully competitive market. Because of the same technology, enterprises began to pay attention to customer needs, trying to find a suitable market segment through market segmentation, and business strategy began to shift to customer orientation. Under the market-oriented reforms, the market of various industries in China has also developed rapidly. Therefore, in this period, customer orientation is more important to the company than competitors.

6.2 Managerial implications

We hope this study will provide a meaningful practical viewpoint for business analytics literature. First, companies should focus on shaping customer-oriented culture. With the deepening of Chinese opening up process, Chinese enterprises are increasingly involved in the global market competition. In many industries in the Chinese market, the phenomenon of overcapacity and oversupply is common. In addition, from the viewpoint of

demand, with the basic needs of customers being met, more and more customers want products to adapt more to their personalized needs. Under such conditions, many enterprises' original effective "competitor-driven" development model can no longer meet the new requirements of the market, but need to further strengthen the attention and response to customers, thus turning to the so-called "customer-oriented" development model. Companies should strive to improve their ability to obtain information from customers and competitors. In particular, we should form a customer-oriented corporate culture, concentrate on understanding customer needs, timely production of products to meet customer needs, and provide quality services. The goal of business activities is to create higher customer value. Only by creating value for customers, we can truly win loyal customers and maintain long-term competitive advantage in market competition. Companies should also try to further guide the potential needs of customers, seize new opportunities in the market, in order to establish a value chain based on customer loyalty.

Second, companies should focus on training IT competence. Today, 20 years after Chinese reform and opening up, enterprises have a high degree of information in office automation, computerized accounting, ERP and other supporting processes, which are also easy to achieve, but still need to improve the

construction of operation system which needs great changes in organization and process. Only by greatly enhancing the ability of IT to learn, absorb and manage external network relationships, can we constantly overcome the barriers of knowledge to improve performance through IT in the Internet era. Chinese enterprises need clear and adaptable IT strategic planning, which is the guide of all IT activities of enterprises. In order to achieve effective integration with business development strategy, its formulation depends on the participation of senior management. If the IT strategic competence of enterprises is low, it directly restricts the formation of coordination between business and IT. Enterprises should set up CIOs at the sub-general level in charge of computerization, and formulate IT planning that is in line with business development strategy, forward-looking and adaptable, and coordinate the relationship between business development and IT application, so as to avoid blind IT investment and application system overthrow and reconstruction.

Third, according to World Economic Situation and Prospects 2019, economic growth accelerated in more than half the world's economies in both 2017 and 2018. Developed economies expanded at a steady pace of 2.2% in both years, and growth rates in many countries have risen close to their potential. among the developing economies,

the regions of East and South Asia remain on a relatively strong growth trajectory, expanding by 5.8% and 5.6%, respectively in 2018. But some softening in economic momentum in many countries in 2019, amid escalating trade disputes, risks of financial stress and volatility, and an undercurrent of geopolitical tensions. At the same time, several developed economies are facing capacity constraints, which may weigh on growth in the short term. From this point of view, although the economies of all countries are facing different opportunities and challenges in the global economic environment. But the digital driving force brought by information technology has a huge impact on every country and every enterprise. Therefore, from this point of view, this study is not only for China, we just select China as the representative object to emphasize the importance of enterprise IT competence.

6.3 Limitations and future research

Although this study has drawn many important conclusions on the theory and practice of enterprise management, there are still some limitations. First, this study mainly explores the impact of market orientation on performance through IT competence, but does not consider the impact of different industries. Future research can focus on some special characteristics of industry, compare different industries, and find out the impact of industrial

characteristics on this relationship. Second, the samples of this study mainly come from SMEs in China, and there is no research on other developing countries or this may be a future research direction. Third, this study provides practical guidance on how to build and develop IT competence according to their own situation and external environment in the process of enterprise information construction. Enterprises' IT investment must be able to internalize their IT competence, that is, to effectively integrate various IT resources and complementary resources, otherwise it can not bring performance to enterprises. Although this study has made some explorations, the formation mechanism of IT competence still needs further study.

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우 가 인 (Yu, Jiatong)



하얼빈공대에서 학사학위를 취득한 이후, 부산외대에서 경영학석사학위를 취득하였다. 이후에 동국대학교 대학원 테크노경영과정에서 경영정보학으로 박사학위 과정을 수료하였다. 주요 관심분야는 MIS와 e-Business의 응용, 기업의 디지털 전환과 동적역량 등이다.

문 태 수 (Moon, Tae-Soo)



현재 동국대학교 경주캠퍼스 경영학부 교수로 재직 중이다. 한국외국어대학교에서 학사, 석사, 고려대학교 대학원 경영학과에서 경영정보학 박사학위를 취득하였다. 포항산업과학연구원, 고려대 기업경영연구원, 한국정보화진흥원 등에서 연구원으로 근무하였다. 미국 센트럴플로리다주립대(UCF) 방문교수, 한국인터넷전자상거래학회 편집위원장과 학회장, 한국정보시스템학회 회장을 역임하고, 한국경영정보학회 회장으로 재임중이다. 주요 관심분야로는 MIS 전략계획과 평가, ERP, SCM, e-Business, ICT 융합 등이다.

<Abstract>

Influence of Competitor, Customer Orientation and IT Competence on Marketing Performance in Chinese SMEs

Yu, Jiatong · Moon, Tae-Soo

Purpose

This study examines the roles of firm-level IT competence in the relationship between marketing orientation and marketing performance in the context of Chinese SMEs. To achieve this goal, this study presents and empirically tests a model of how competitor orientation and customer orientation can be exploited to positively influence marketing performance through IT competence.

Design/methodology/approach

The competitor orientation and customer orientation are based on the market orientation construct developed by Trainor et al. (2011). IT competence re based on the market orientation construct developed by Reitz et al. 2018) and the marketing performance are based on the performance construct developed by Hooley et al., (2005). To complete the investigation, we conducted a survey in China from February 2019 to April 2019. Randomly contacted 150 Chinese SMEs, including SMEs of all sizes and types. To test our hypotheses, partial least squares (PLS) method was employed.

Findings

The findings indicate that customer orientation is antecedent to IT competence, while competitor orientation has no significant relationship with IT competence. This study provides a better understanding of the connection between IT competence and firm performance. So companies should focus on shaping customer-oriented culture and training IT competence.

Keyword: Competitor Orientation, Customer Orientation, IT Competence, Marketing Performance, Chinese SMEs

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