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THE MODERATING EFFECT OF E-BUSINESS CAPABILITY IN THE RELATIONSHIP BETWEEN MARKET ORIENTATION AND FIRM PERFORMANCE

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ABSTRACT

Building on multiple theoretical perspectives, we examined how e-business capability moderates the association of different dimensions of market orientation (i.e., customer, competitor, and inter-functional coordination orientation) and firm performance (i.e., financial, operational, and customer service performance). We tested hypotheses using survey data from senior executives in China. Our findings reveal that both customer orientation and inter-functional coordination can positively impact firm performance, while competitor orientation cannot affect firm performance significantly. Further, we found the complicated and interesting moderating effects of e-business capability on the multiple relationships between market orientation and firm performance. Specifically, e-business capability can strengthen the impact of customer orientation on financial and operational performance, but it weakens the relationship between competitor orientation and financial performance and the relationship between inter-functional coordination and customer service. Theoretical contributions and managerial implications of the study are discussed.

Keywords: market orientation, e-business capability, firm performance, emerging economics

1. INTRODUCTION

In the contemporary environment, e-business is becoming a key competitive factor “generating tremendous new wealth, mostly through entrepreneurial start-ups and corporate ventures” (Amit & Zott 2001 p.494). The incredible growing of e-business further makes a firm’s e-business capability become one critical area for exploration (Li et al. 2010; Rosenzweig 2009; Zhu & Kraemer 2005). This capability reflects the firm’s ability to use Internet technologies to manage business processes, such as services to consumers, collaboration with business partners, and intra-organizational relationships (Amit & Zott 2001; Li et al. 2010; Wang & Cheung 2004). Indeed, e-business is transforming the rules of competition for established businesses in unprecedented ways (Amit & Zott 2001; Porter 2001). The literature further indicates that e-business capability could enable a firm to establish an open, public, and global platform with low cost, rich content, real-time data, and broad deployment across the supply chain (Bechky & Okhuysen 2011; Frohlich 2002; Liu et al. 2010). This capability could stimulate inter-organizational communication, international marketing, and global competition, and this may bring either opportunities or challenges to an individual firm (Li et al. 2010; Porter 2001; Rosenzweig 2009).

Previous studies on e-business have made contributions in various research areas, including the antecedents of e-business adoption and implementation, the effect of e-business use on performance, and the role of e-business in reinforcing the market-based relationships. Recently, scholars have paid attention to the particular role of e-business capabilities in the market orientation (MO)-performance investigation (Borges et al. 2009; Luo & Seyedian 2003). Specifically, MO reflects a firm’s focus on the creation of superior value for customers (Naver & Slater 1990; Whiteman & Cooper 2011; Zhou et al. 2008). According to the market orientation theory, the existing literature proposes that MO has a positive impact on firm performance (Cano et al. 2004; Hult et al. 2005; Kumar et al. 2011; Naver & Slater 1990; Wei & Atuahene-Gima 2009; Whiteman & Cooper 2011). Yet, there is limited effort to synthesize existing findings to better understand how firms deploy MO under specific context, such as the e-business context (Bridoux et al. 2011; Sandberg & Tsoukas ; Wei & Atuahene-Gima 2009). Today’s Internet technologies are widely used for gathering, processing, sharing, and disseminating vast amount of information inside and outside firms toward creating customer value to satisfy customers. This function is becoming the essential processes of an MO. As such, scholars posit that simply investigating the direct relationship between MO and firm performance is not fruitful; rather, the research should shift from the justification of MO’s value to the understanding of the contextual factor, such as e-business capability which may leverage its effectiveness (Bridoux et al. 2011; Gotteland & Boule 2006; Wei & Atuahene-Gima 2009).

Although scholars have realized the importance of e-business, little research empirically investigates how e-business capability may affect the relationship between MO and firm performance. This limitation may reduce the predictive efficacy of MO theory, and then lead firms to misallocate resources and effort, which may in turn cause poor firm performance. To bridge the gaps in the existing literature, this study seeks to understand how a firm’s e-business capability impacts the salient firm performance outcomes of MO. Specifically, based on the MO theory, we conceptualize both MO and firm performance as multidimensional constructs, instead of the unidimensional approach applied by others. We conceptualize MO as a multi-dimensional construct consisting of customer, competitor, and inter-functional coordination orientation (e.g., Li et al. 2010; Zhao & Cavusgil 2006; Zhou et al. 2009). This categorization enables examining the performance impacts of the MO dimensions. Further, we investigate three aspects of firm performance - financial, operational, and customer service - which reflect the three key performance outcomes related to MO. Scholars have contended that considering multiple performance dimensions not only helps to explain the mixed findings in the literature, but also to obtain a holistic understanding of the relationships among response alternatives (different dimensions of MO), multiple performance outcomes, and contingencies (Dobbin 2010).

Most importantly, this study applies the contingency theory to explain the potential moderating effects of e-business capabilities. The contingency theory suggests that “for each strategic orientation

there exists a configuration of organizational characteristics that fits the strategy to yield superior performance” (Slater et al. 2006 p.1221). According to this perspective, e-business capability is expected to “fit” with MO. In this view, we propose that the influences of MO on firm performance would depend on the firm’s ability to match e-business capability with MO. The results of the current study will extend the findings of previous MO research and narrow the gaps in the MO literature by examining e-business capability.

2. CONCEPTUAL FRAMEWORK

Figure 1 depicts the research framework investigated in the current study. The model describes the influencing mechanism of MO on firm performance and considers the role of e-business capability in the mechanism. It shows how the three dimensions of MO (i.e., customer orientation, competitor orientation, inter-functional coordination) influence the three aspects of firm performance (i.e., customer service, operational performance and financial performance), and how the firm’s e-business capabilities moderate these relationships. Based on their underlying rationale, the following sections present the detailed hypotheses related to these relationships.

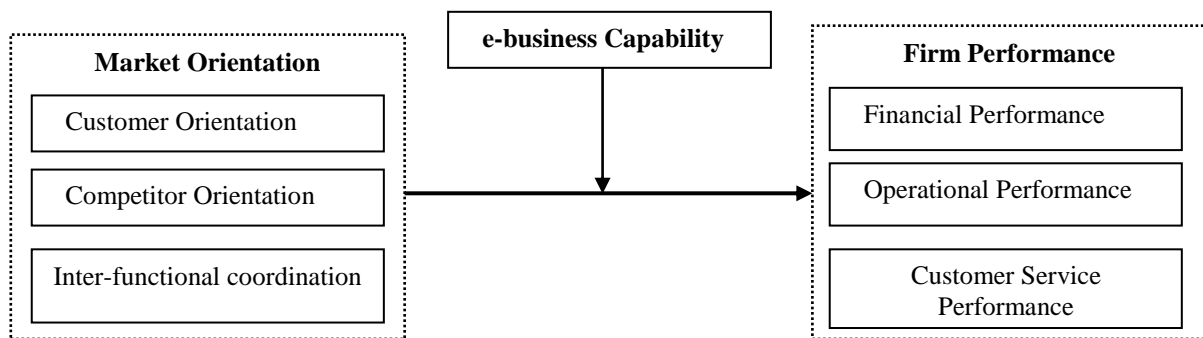


Figure 1. The conceptual model

2.1 Market orientation and firm performance

Market orientation refers to “the organization-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organization-wide responsiveness to it” (Whiteman & Cooper 2011 p.6). It has been treated as an organizational culture that reflects a firm’s focus on understanding the target customers and existing and potential competitors thoroughly, and the coordination across the functions within the firm. In this view, the literature categorizes MO into the dimensions of customer orientation, competitor orientation, and inter-functional coordination (Naver & Slater 1990). Specifically, inter-functional coordination indicates the coordination of firm resources and customer-related activities throughout the whole firm (Zhou et al. 2009). In contrast, customer orientation represents a relative emphasis on “the sufficient understanding of one’s target buyers,” and competitor orientation focuses on the understanding of “the short-term strengths and weaknesses and long-term capabilities and strategies of both the key current and potential competitors” (Naver & Slater 1990 p.21-22).

The MO theory suggests that MO can help firms conduct the necessary business practices to create superior customer value and competitive advantage effectively and efficiently (Hsieh et al. 2008; Li et al. 2010). A number of empirical researches further provide the evidences to support the impact of MO on firm performance (Wei & Atuahene-Gima 2009). In particular, customer orientation would push firms to actively collect, analyze, and disseminate sufficient information about customers. This could help firms to obtain the necessary information and cooperation to serve customers better, and result in high operational efficiencies and profitability. Comparatively, a competitor-oriented firm emphasizes understanding the strengths and weaknesses of key current and potential competitors (Naver & Slater 1990), and is apt at internalizing competitor’s strengths or advantages through

imitation (Zhou et al. 2009). This enables the firm to eliminate the potential operational and strategic costs and risks based on its own strengths and weaknesses, and eventually achieve superior firm performance. Further, inter-functional coordination facilitates the creation and sharing of knowledge within and across different functions throughout the entire firm (Borges et al. 2009). This would help firms share information and processes with external partners accurate and timely, and then enable them to respond response to market changes quickly, eventually improve their performance.

On the other hand, a clear definition of firm performance is required in clarifying the multi-dimensional relationship between MO and firm performance. The notion of firm performance has many aspects, and each aspect has been measured in various ways in previous MO research. For example, Zhou et al. (2009) identify market performance and financial performance as the important aspects of firm performance that MO can impact. Through a meta-analysis study, Kirca et al. (2005) indicate that the previous survey-based MO-performance research normally measures firm performance via overall performance, operational costs, customer satisfaction, and business performance measures. Accordingly, the current research considers operational performance, customer service, and financial performance as the key aspects of firm performance. Specifically, we define operational performance as an improvement in the firm's response to a changing environment relative to its competitors, describe customer service in term of the firm's speed of confirming orders, handling complaints, and establishing strong and continuous bond with customers, and represents financial performance in terms of the firm's business performance related to investment return, profitability, and net income.

H1: A firm's a) customer orientation; b) competitor orientation; c) inter-functional coordination is positively related to its performance (customer service, operational performance, and business performance).

2.2 The moderating effect of E-business capabilities

Although the literature presents the positive relationship between MO and firm performance, scholars increasingly propose that the MO - firm performance relationship is becoming more complicated than expected as the business environment is changing. Some research has explored the potential moderating effects of contextual factor on the relationship between MO and firm performance (D'Aunno 2010; Gotteland & Boule 2006; Sandberg & Tsoukas 2011). For example, Gotteland (2006) present that the MO-new product performance is moderated by the environmental conditions, such as environmental dynamism, complexity, and capacity. Rodríguez-Pinto (2011) further found the moderating effects of the order of market entry on the relationship between MO and new product performance. These results thus call for the further research concerned with the role of moderators of the relationship between MO and firm performance.

The diffusion of e-business is creating the new business models and new rules for the competitive market, which requires firms to alter their strategy and structures (Borges et al. 2009). The existing literature thus increasingly proposes the relationship between MO and e-business in firm strategy and performance (Borges et al. 2009; Li et al. 2010; Wu et al. 2003). For example, Wu et al. (2003) present that a firm's customer orientation can significantly impact the firm's overall intensity of e-business adoption, while competitor orientation cannot. Li et al. (2010) further contend that a firm's e-business adoption would be significantly impacted by the three dimensions of MO simultaneously. On the other hand, Saini and Johnson (2005) find that the impacts of a firm's e-commerce capability and MO has the interactive effects on firm performance. Further, Borges et al. (2009) indicate that in e-business, a firm's investment in inter-organizational systems can contribute to strengthen its MO. However, although the literature realizes the importance of e-business for MO research, little research empirically investigate the moderating impact of a firm's e-business capability on the MO-performance relationship, especially on the multiple MO-performance relationships.

E-business capability refers to a firm's ability to apply e-business applications to collaboratively manage intra- and inter-organizational processes (Flynn et al. 2010; Frohlich 2002; Lee & Whang 2004). As Zhu et al. contends, "developing e-business capability is an important undertaking because it encompasses enabling sell-side, buy-side, and internal business processes" (p.1558). This indicates a firm's e-business capability could support itself embed different types of e-business applications, such as Internet-enabled Supply Chain Management systems (eSCM), into their supply chain management. This capability thus could facilitate firms to leverage fully utilize inter-organizational systems to interact with the environment (Frohlich 2002; Osmonbekov et al. 2009; Rosenzweig 2009). According to the contingency theory, the literature suggests that market orientation reflects a firm's outward-looking view of the fit between strategic choices and environment. The orientation focuses on how the firm should interact with external environments, such as customers, competitors, and technology to conduct business (Hsieh et al. 2008; Kirca et al. 2005; Matear et al. 2002). This indicates that e-business capability can be a unique resource that supports market orientation directed at achieving superior performance. Hence, we propose that e-business capability can moderate the MO-performance links.

E-business capability can help firms achieve better performance from customer orientation. A customer-oriented firm emphasizes understanding and satisfying target customers' demands (Zhou et al. 2009). For example, when customers' demands change rapidly in the market, the customer-oriented firm will make possible innovations to collect, analyze, and disseminate sufficient information about its customers (Han et al. 1998). With the open, real-time, and global communication platform, e-business capability enables firms to obtain the necessary information and cooperation to serve customers better. The functionality of e-business can help attain the objective of customer orientation and help firms reap high performance benefits (Kirca et al. 2005; Zhou et al. 2009). Thus, the proposed positive relationship between customer orientation and firm performance will be enhanced when the firm's e-business is high.

H2: A firm's e-business capability can serve as a moderator of the relationships between customer orientation and firm performance

In addition, a firm's high e-business capability can strengthen the relationship between competitor orientation and firm performance. Specifically, a competitor-oriented firm emphasizes understanding the strengths and weaknesses of key current and potential competitors (Naver & Slater 1990). To deepen such understanding, the firm should watch competitors closely, learn about competitors actively, and match competitors' marketing initiatives quickly. The Internet provides the efficient method to get the real-time and rich-content information about the competitors, which would facilitate the competitor-oriented firm to improve performance. Furthermore, the competitor-oriented firm is apt at internalizing competitor's strengths or advantages through imitation (Zhou et al. 2009). Indeed, it is suggested that a firm with high e-business capability would be flexible. That means, this capability enables the firm to easy to change their processes when it imitates competitors' successful actions, and eventually strengthen the positive influences of competitor orientation on its performance.

H3: A firm's e-business capability can serve as a moderator of the relationships between competitor orientation and firm performance

We finally propose that e-business capability could enhance the relationship between inter-functional coordination and firm performance too. Specifically, inter-functional coordination emphasizes the creation and sharing of knowledge within and across different functions throughout the entire firm (Borges et al. 2009). Yet, the traditional human-intensive mechanisms, such as limited information processing capability, limit the firm to benefit from inter-functional coordination and cooperation. Under this condition, due to the diffusion of Internet technologies, many firms are

increasingly infusing e-business into their inter-functional coordination (Tanriverdi 2005). The firm's e-business capability could enable the firm connect different business units any time and any place, which could increase the creation and sharing of firm knowledge resources, and finally facilitate the firm to achieve superior firm performance from the coordination (Li et al. 2010; Tanriverdi 2005).

H4: A firm's e-business capability can serve as a moderator of the relationships between inter-functional coordination and firm performance

3. RESEARCH METHODOLOGY

3.1 The sample

The current research conducted a survey in China. As a powerhouse for global economics, China has become a very important manufacturing base in the world (Zhao et al. 2008). To obtain a representative sample, we randomly chose 1,000 firms from the lists provided by local universities and government officials, such as the Industrial Park Administrators. The lists provide the contact information for key informants, such as CEOs, senior vice presidents for operations management, or chief technology officers. First, we sent invitations to key informants to participate in our survey. We clearly explained how we got their contact information and the objectives of the research, and invited them to participate in our study. After we obtained their consent to participate in the survey, we sent questionnaires to the potential respondents. We received 289 returned questionnaires. Thirty incomplete questionnaires were discarded. Thus, we obtained 246 useful questionnaires and a response rate of approximately 24.6%. Following Armstrong and Overton (1977), we tested the potential non-response bias. Table I shows the demographic information of the samples.

	N	Percentage
Industry		
Manufacturing	124	47.69%
Service	136	52.31%
Ownership		
State-owned	95	36.54%
Privately-owned	70	26.92%
Foreign-controlled	95	36.54%
Number of Employees		
≤ 100	51	19.62%
100-500	62	23.85%
500-1000	34	13.08%
1000-2000	19	7.31%
More than 2000	94	36.15%
Number of IT Employees		
≤ 5	107	41.15%
6-10	44	16.92%
11-25	19	7.31%
More than 25	90	34.62%

Table 1. Sample demographic (n=260)

3.2 Measures

The instrumentation was developed based on previously validated measures. We clearly defined the domain of each construct in terms of what should be included or excluded. Furthermore, we reviewed the related literature to locate the relevant scales. All measures were assessed with 5-point Likert scales, ranging from "strongly disagree" to "strongly agree." Specifically, the measures of the three dimensions of market orientation were adopted from Lukas and Ferrell (2000). Further, we

adapted five items that measure e-business capabilities from Kandemir et al. (2006), Narasimhan and Das (2001), and Lee and Whang (2004). We measured firm performance through testing the executives' perceptions of their company's performance relative to that of key competitors. In particular, the items measuring financial performance were adapted from Carr and Pearson (1999). Operational performance items were adapted from Rai et al. (2006) and Ravichandran and Lertwongsatiem (2005), and the measures for customer service performance were adapted from Chen et al. (2004) and Rai et al. (2006),

Finally, the present study includes four other control variables that might affect firm performance—the ownership, the industry, firm size, and IT department size. First, we used a dummy variable for the industry, with IND=1 and IND=0 for the manufacturing and service industry, respectively. Second, we also used the dummy variables for the firms' ownership types. It involved three categories of ownership: state-owned, private-owned, and foreign-controlled. Finally, we measured firm size by the number of full-time employees, and IT department size by the full-time employees in the IT department.

4. DATA ANALYSIS AND RESULTS

4.1 Measurement validity

We tested the convergent validity (loading, composite reliability, average variance extracted AVE), and discriminant validity (AVE and inter-construct correlations) of measurement. As shown in Table 2, the loadings of all items are greater than 0.70. Furthermore, the results showed that Cronbach Alpha ranged from 0.71 to 0.90, and the composite reliability values ranged from 0.84 to 0.93, which were both above the 0.70 recommended level (Hair et al. 2006). The value of AVE scores for every construct ranged from 0.54 to 0.76, which were higher than the 0.50 recommended benchmark. All the results indicated that the items demonstrated adequate convergent validity. Furthermore, as Table 3 shows, the square root of AVEs for each construct, which was presented on the diagonal, was greater than the correlations between constructs. This result indicated that none of the constructs shared more variance with another construct than with its own measures. Therefore, the measurement achieved adequate discriminant validity.

Construct	Items	Loading	Cronbach alpha	Composite Reliability	AVE
Customer Orientation	CUO1	0.78	0.85	0.89	0.63
	CUO2	0.81			
	CUO3	0.82			
	CUO4	0.81			
	CUO5	0.73			
Competitor Orientation	CPO1	0.83	0.71	0.84	0.63
	CPO2	0.83			
	CPO3	0.73			
Inter-functional coordination	IFC1	0.78	0.82	0.87	0.58
	IFC2	0.78			
	IFC3	0.74			
	IFC4	0.75			
	IFC5	0.75			
E-Business capability	EBC1	0.73	0.82	0.87	0.54
	EBC2	0.70			
	EBC3	0.73			
	EBC4	0.77			
	EBC5	0.73			
	EBC6	0.74			
Business performance	BUP1	0.89	0.90	0.93	0.76

	BUP2	0.91			
	BUP3	0.90			
	BUP4	0.80			
Operational performance	OPP1	0.75	0.82	0.88	0.65
	OPP2	0.86			
	OPP3	0.85			
	OPP4	0.76			
Customer Service	CUS1	0.84	0.88	0.92	0.74
	CUS2	0.88			
	CUS3	0.85			
	CUS4	0.86			

Table 2. Results of Confirmatory Factor Analysis

	Mean	S.D	1	2	3	4	5	6	7	8	9	10	11	12
1. Customer orientation	3.79	0.72	0.79											
2. competitor orientation	3.61	0.72	0.51	0.80										
3. Inter-functional coordination	3.50	0.67	0.54	0.61	0.76									
4. E-business	3.40	0.80	0.53	0.42	0.55	0.73								
5. Business performance	3.56	0.78	0.43	0.39	0.55	0.43	0.87							
6. Operational performance	3.61	0.74	0.50	0.49	0.59	0.51	0.60	0.81						
7. Customer service	3.89	0.77	0.50	0.39	0.51	0.45	0.47	0.68	0.86					
8. Dummy Variable (Manu.)	--	--	0.03	-0.02	-0.02	0.00	0.04	0.13	0.19	1.00				
9. Dummy Variable (State)	--	--	-0.09	-0.01	-0.17	-0.21	-0.08	-0.11	-0.09	-0.21	1.00			
10. Dummy Variable (Private)	--	--	-0.03	-0.02	0.02	-0.06	-0.06	-0.02	-0.08	-0.11	-0.46	1.00		
11. Firm SIZE	--	--	0.16	0.18	0.05	0.08	0.08	0.12	0.03	0.10	0.19	-0.33	1.00	
12. IT Dep. Size	--	--	0.19	0.22	0.18	0.17	0.15	0.18	0.05	-0.09	0.21	-0.28	0.71	1.00

Table 3. Mean, standard deviation, and correlation

4.2 Hypotheses testing

To test the hypotheses, we used hierarchical regression analysis. To minimize the possibility for multicollinearity issue, we mean centered the independent variables and moderators. The dummy variables of industry and ownership, and the control variables, firm size, and IT department size were considered in the analysis. The results in Table 4 show that both customer orientation and inter-function coordination can positively impact financial ($\beta_{\text{customer}} = 0.14$, $p < 0.10$; $\beta_{\text{inter-function}} = 0.47$, $p < 0.01$), operational ($\beta_{\text{customer}} = 0.18$, $p < 0.05$; $\beta_{\text{inter-function}} = 0.38$, $p < 0.01$), and customer service performance ($\beta_{\text{customer}} = 0.30$, $p < 0.01$; $\beta_{\text{inter-function}} = 0.34$, $p < 0.01$). Yet, competitor orientation cannot impact firm performance significantly. As such, H1b was not supported, whereas H1a and H1c were supported.

	Financial Performance			Operational Performance			Customer Service		
	Model1	Model2	Model3	Model4	Model5	Model6	Model7	Model8	Model9
Control Variables									
Dummy Variable (Manu.)	0.04	0.07	0.09	0.19*	0.22**	0.24**	0.26**	0.28**	0.27**
Dummy Variable (State)	-0.23*	-0.02	0.04	-0.20	0.00	0.08	-0.19	0.02	0.06
Dummy Variable (Private)	-0.16	-0.11	-0.08	-0.03	0.01	0.07	-0.20	-0.15	-0.12
Firm SIZE	-0.03	-0.01	-0.01	-0.02	-0.01	0.00	-0.03	-0.02	-0.01
IT Dep. Size	0.11*	0.02	0.02	0.12*	0.03	0.02	0.06	-0.02	-0.03
Independent Variables									
Customer Orientation (CUO)		0.18**	0.14+		0.22**	0.18**		0.33**	0.30**
Competitor Orientation (CPO)		0.04	0.03		0.14*	0.10		0.05	0.03
Inter-functional coordination (IFC)		0.50**	0.47**		0.43**	0.38**		0.37**	0.34**
E-business Capability (EBC)			0.12+			0.20**			0.14*
CUO * EBC			0.15*			0.16*			0.03
CPO * EBC			0.13			-0.05			-0.18*
IFC * EBC			-0.29**			-0.09			-0.01

R ²	0.04	0.33	0.37	0.07	0.43	0.47	0.06	0.38	0.41
F-model	2.34*	15.77**	12.04**	3.84**	23.77**	18.24**	3.03**	19.13**	14.31**
Δ R ²	-	0.39	0.04	-	0.36	0.04	-	0.32	0.03
Δ F-model	-	36.51**	3.39*	-	53.07**	4.52*	-	43.43**	3.27*
+p<0.10; *p<0.05; **p<0.01 (Two tailed)									

Table 4. Results for hierarchical regression analysis

Finally, we tested the moderating effects of e-business capability on the relationships between MO and firm performance. To summarize the results for H2, H3, and H4, we draw Figures 2 based on Aiken and West's (1991) graphical procedure. We assigned to e-business capability the values of one standard deviation above and below its means to plot its moderating effects. Table 4 and the figures show that the positive relationship between MO and firm performance can be moderated by e-business capability in various ways. Specifically, Figure 2a shows that the relationship between customer orientation and financial performance was positive and significant for high e-business capability ($\beta=0.36$, $p<0.05$), and it is non-significant for the low e-business capability ($\beta=0.02$). Further, the relationship between inter-functional coordination and financial performance was positive and significant for low e-business capability ($\beta=0.71$ $p<0.01$). Meanwhile, it was positive and significant for high e-business capability ($\beta=0.24$ $p<0.05$). The results showed that the relationship between customer orientation and operational performance was positive and significant for low e-business capability ($\beta=0.31$, $p<0.01$), and it is non-significant for the low e-business capability ($\beta=0.05$). Finally, as shown in Figure 2d, the relationship between competitor orientation and customer service was positive and significant for low e-business capability ($\beta=0.18$, $p<0.05$), and it is negative and non-significant for the low e-business capability ($\beta=-0.11$).

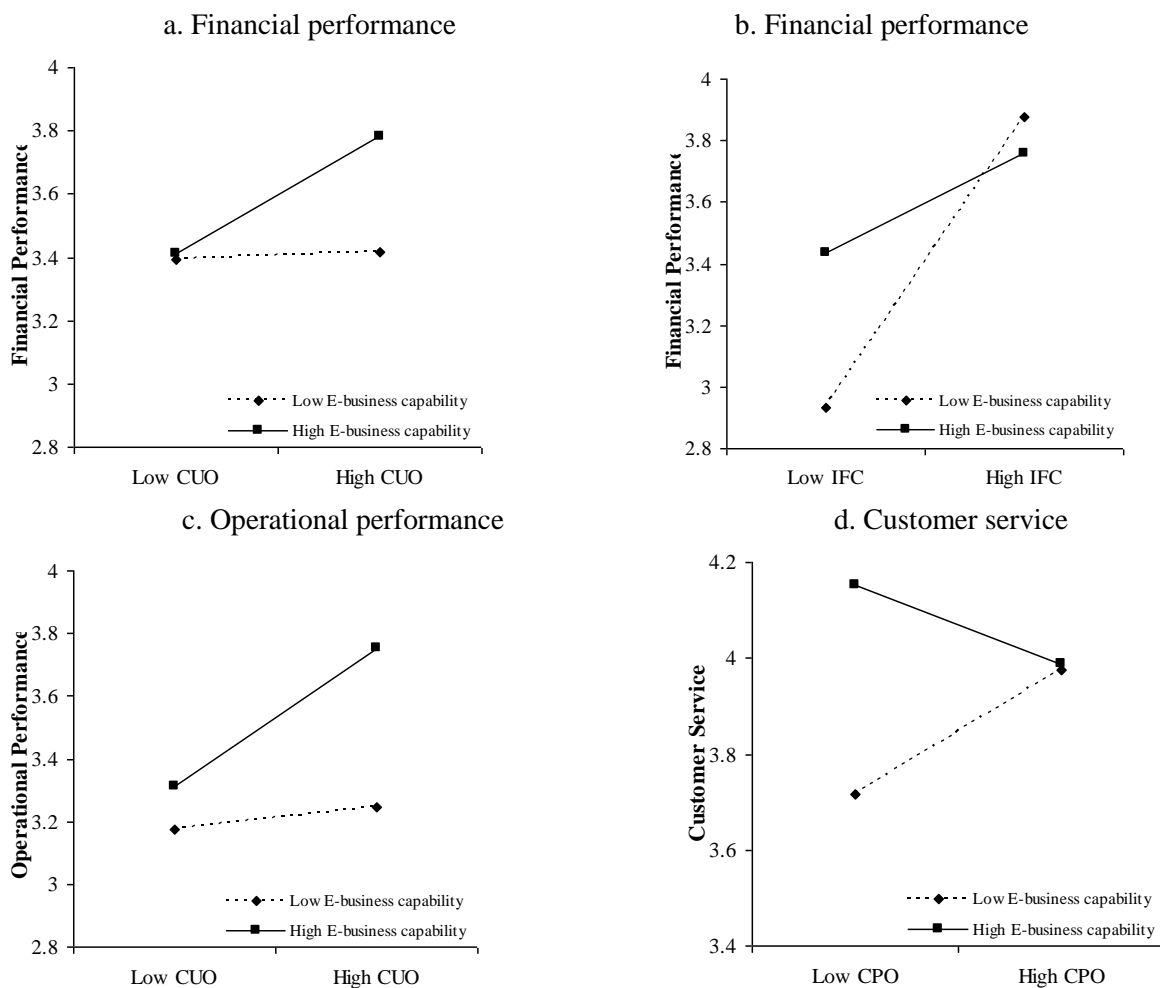


Figure2. The moderating effects of e-business capability on the MO-performance relationships.

5. DISCUSSION

The results of testing H1 show that competitor orientation does not affect firm performance. The possible reason may be that “the fast changing nature of the Chinese market makes a competitor orientation less desirable” (Zhou & Li 2010). Specifically, China is transforming from a planned economy to a market economy. In the market transforming process, Chinese market is inadequate and the legal support is insufficient. The market is flooded with dysfunctional competitive behavior, such as opportunistic, unfair, or even unlawful behavior (Li & Atuahene-Gima 2001). Under this condition, a firm in China is difficult to get a reliable source to achieve the information about competitors, and then effectively make decisions and configure ate resource based on competitor information, which would make competitor orientation less relevant in achieving superior firm performance.

More importantly, based on agency theory, this study shows that e-business capability can moderate some relationships between MO and firm performance. Our finding indicates that the moderating effects are different and interesting. For example, we found that e-business capability can strengthen the impact of customer orientation on both financial and operation performance, rather on customer service. The possible explanation is that although many basic processes related to customer service can be automated, such as order and complaint handling, the superior customer service still require human intervention, such as developing strong and continue bonds with customers. Indeed, the literature indicates that only when the requisite human resources embrace such practices, the firm can achieve superior customer service performance (Ahmad & Schroeder 2003; de Menezes et al. 2010). Thus, the role of e-business capability, which focuses on supporting the automotive business routines, would be limited in a customer orientated firm when the firm tries to achieve superior customer service.

Further, the result shows that e-business capability cannot moderate the impact of competitor orientation on financial and operational performance, but weaken its influence on customer service significantly. According to the above arguments, Chinese market is flooded with dysfunctional competitive behavior, such as opportunistic, unfair, or even unlawful behavior (Li & Atuahene-Gima 2001). In this market, some informal, interpersonal social mechanism, such as social ties, Guanxi, is important for a firm to collect crucial information about competitors that may not be available in the open market, and then make efficient decisions (Sheng et al. 2011). However, a firm’s e-business capability sometimes requires the firm to manage business relationships in a formal routine, which may impede the firm to achieve information from some informal ways. This may be the reason that in Chinese market, a competitor oriented firm would be easy to improve customer service when its e-business capability is low.

Finally, we found the negative moderating effect of e-business on the relationship between inter-functional coordination and financial performance. The possible explanation may be that e-business capability automates the exchanging process of information and knowledge across the functions. However, although the e-business capability can facilitate the firm to share information and knowledge across their functions, it may hamper some human intervention in inter-function coordination which is critical for financial performance. Thus, the role of e-business capability, which focuses on supporting the automotive business routines, would limit the firm to achieve financial benefits from the inter-functional coordination.

6. CONCLUSION

The objective of the present study is to explore the influencing mechanism of MO on firm performance. Our results support the majority of our theoretical propositions on the relationship between MO and firm performance. First, we find that both customer orientation and inter-functional coordination can be positively associated with financial, operational and customer service performance. Second, we present empirical evidence of the moderating impact of e-business

capability on the relationship between MO and firm performance. These results have implications for the e-business and MO research, as well as for managers seeking to improve their firms' performance.

Our study makes three theoretical contributions. First, compared with most existing studies examining the effects of MO, our research allows us to assess the differences in the effects of the three dimensions of MO on firm performance. It suggests that the influence of MO on firm performance varies. Second, the current study contributes to existing literature by exploring the moderating effects of the context factor, i.e., e-business capability, in the influencing process of MO. Our findings suggest that a firm's e-business capability can serve as a moderator to leverage the influence of the specific orientation dimension on the special aspect of firm performance. The findings provide a new view for scholars to explore the potential contextual factors in the MO-performance link.

The current research also has three important practical implications for managers. First, this study can deepen managers' understanding of MO, and further inform their decisions. Our conceptualization of the three dimensions of MO provides the chance for them to understand MO using a multiple perspective, and further helps them realize that MO is not a single-time decision. Second, our current study illustrates the type of performance benefits that firms can achieve when it has MO. Our findings provide managers with guidance in choosing the right orientation for improving their favored performance benefits. Finally, our study also suggests to managers to note the significant role that e-business capability plays in affecting the relationship between MO and firm performance. In particular, e-business capability can increase the effectiveness of customer orientation on financial and operational performance, while it can decrease the effectiveness of competitor orientation on customer service and the effectiveness of inter-functional coordination on financial performance. Thus, managers would do well to consider e-business capability when they are involved in MO initiatives.

It is important to evaluate the current study's results and contributions in light of its limitations. First, the demography of the respondents of the current study may limit the generalizability of our findings. We note that researchers and practitioners should be cautious when generalizing what is learned from the current study to other contexts. Future studies can compare the results from different settings to obtain interesting results and to extend our findings. Second, our study used a cross-sectional research design. A longitudinal study can enrich our understanding by offering information on the causal relationships between independent and dependent variables. Finally, our study measured firm performance by the key respondent's subjective perceptions. Future studies should include objective measures of firm performance.

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