Examining the interactive roles of marketing, innovation and social networking capabilities on firms customer-based performance

Phyra Sok, University of Newcastle, phyrasok1@yahoo.com
Aron O'Cass, University of Newcastle, Aron.Ocass@newcastle.edu.au

Abstract

This study investigates how marketing capability, innovation capability and their complementarity effect influence on firm customer-based performance. The study also examines the moderating role of social networking capability on these relationships. The results of a survey of 184 SME manufacturing firms show that both marketing and innovation capabilities significantly influence customer-based performance. Further, our findings reveal that the complementary effect of marketing and innovation capabilities is also positively related to customer-based performance. In addition, the marketing and innovation capabilities relationships with customer-based performance are moderated by social networking capability. However, social networking capability does not moderate the complementary effect of marketing and innovation capabilities.

Keywords: Marketing, innovation, networking, capability, complementarity, customer-based performance

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Introduction

On the premise that a firm's resources (and capabilities) provide performance differentials, the resource based view (RBV) has attracted considerable research attention. However, there is still unaddressed issue concerning scholars within strategic management and marketing fields: why some firms are better than others at utilizing their capabilities in capturing customer satisfaction, acquiring new customers, retaining existing customers, delivering value to customers and increasing sales to customers (i.e. Song *et al.*, 2005). We argues that a possible reason for this concern is that previous research within RBV has not yet fully identified which capabilities are critical, and how such capabilities matter in realizing the value of available resources that eventually lead to superior performance.

RBV has contributed significantly and provided an important theoretical base for understanding how heterogeneous resources drive firm performance (Barney, 1991). However, it is argued that resources have only potential value (Ketchen *et al.*, 2007), as such it is the firm's ability to deploy resources through its capabilities (DeSarbo *et al.*, 2007) that better explain firm performance differentials. We argue that the key for firms is to identify, develop and deploy specific capability sets that will yield marketplace advantages.

Drucker (1954) argues that the most influential and significant capabilities firms need to possess to be competitive are marketing and innovation. To date, while the relationship between a firm's marketing capability (MC) and its performance (i.e. Morgan *et al.*, 2009; Vorhies *et al.*, 2009), as well as a firm's innovation capability (IC) and its performance (i.e. Baron and Tang, 2010; Hult *et al.*, 2004) are well-grounded, the management and marketing literature is almost silent in examining the effect of MC and IC on firm performance simultaneously. More importantly, the complementary effect of MC and IC has not been empirically examined extensively, leaving a potential source of advantage for firms largely unexplored (i.e., Newbert, 2007; Vorhies *et al.*, 2009).

RBV has exclusively addressed resources and capabilities available inside firms (Crook *et al.*, 2008). However, since firms need to simultaneously develop and cultivate internal resources and capabilities and obtain other available resources and capabilities which may not be available inside firms through their networks to be successful (Lee *et al.*, 2001), incorporating the role of firm's social networking capability derived from Social Capital Theory (SCT) becomes pivotal. It is because firms with strong social networking capability (SNC) may have access to resources and capabilities of their external partners (i.e., Acquaah, 2007). Studies to date have, however, given little attention to systematically incorporate simultaneously RBV and SCT to examine and better explain firm performance differentials.

The studies of MC, IC and SNC have often been linked to specific performance such as sale, profitability and others to the neglect of specific performance such as customer-based performance (CP) (Zahay and Griffin, 2004), limiting our understanding of the effect of these capabilities on performance at disaggregated level.

The purpose of this study is to contribute to the literature by addressing these shortfalls. First, we operationalize the effect of MC and IC simultaneously on CP as disaggregated dependent indicators of marketplace performance outcomes (See Peteraf and Bergen, 2003; Ray *et al.*, 2004). Further, we examine the complementary effect of MC and IC on CP. We show that developing MC and IC simultaneously and improving the complementary effect of these two capabilities is a beneficial approach to preventing imitation of firm capabilities and enhancing marketplace outcomes.

Second, we argue that firms with strong SNC can enhance the effect of their MC and IC on CP. We show that firms may perform (i.e., capturing customer satisfaction) better than others may not rest totally on how well they utilize their MC and IC, but is also contingent on their SNC to acquire external resources and capabilities to enhance their MC and IC.

Theory and Hypotheses

RBV has contributed significantly and provided important theoretical bases for understanding how heterogeneous resources drive firm performance (Barney, 1991; Crook *et al.* 2008). However, some scholars (i.e. DeSarbo *et al.* 2007; Vorhies *et al.* 2009) suggest that it is the firm's ability to deploy resources, which is now commonly referred to as organizational capabilities (i.e. Kale and Singh, 2007) that better explain firm performance differentials. The key for firms is to identify, develop and deploy specific capability sets that will yield marketplace advantages. In this context we take the view of Drucker (1954) who suggested that the most influential and significant capabilities firms need to possess to be competitive are marketing and innovation. There is an extensive body of work investigating (often separately) the effect of MC (i.e., Vorhies *et al.*, 2009) and IC (Hult *et al.*, 2004) on firm performance. However, there is little if any work examining the effect of MC and IC on firm performance simultaneously. More importantly, the complementary effect of MC and IC has not been empirically examined extensively. This issue is one of the deficiencies of RBV highlighted by Newbert (2007) as part of an extensive meta-analysis.

Recently attention has been devoted to SCT to explain the significance of externalities, including resources and capabilities available to firms through their networks (i.e. McEvily and Marcus, 2005). The social networking perspective takes the view that firms that are able to build up good partnerships with other firms (Gulati *et al.,* 2000) or officials in the government (Acquaah, 2007) have the capacity to achieve superior performance. This view is taken because such firms can access to resources and capabilities possessed by partners (Doz and Hamel, 1998) or gain special concessions from the government (Sack, 2002).

The role of MC in driving firm performance (including CP) is of interest to scholars (Vorhies and Morgan, 2005). It is suggested that firms with superior MC can develop and maintain strong relationship with customers and channel members (Song *et al.*, 2007) and have the capacity to understand the customers better than their competitors (Narsimhan *et al.* 2006); thus, providing them a greater opportunity to achieve superior CP. Therefore,

H1a: Firm marketing capability is positively related to customer-based performance.

A key component in the success of any firm is the extent of their IC. The role of IC in driving firm performance has been of significant interests to scholars (i.e. Calantone *et al.* 2002). IC has become a pre-requisite for a firm's competitive advantage and survival (Rhee *et al*. 2010). Firms with strong IC will develop a competitive advantage, enabling them to derive the outcomes from it (Hurley and Hult, 1998). Moreover, since the customer's needs keep changing, it is of paramount important to fuel IC to respond to the changes; thus achieving superior CP. Therefore,

H1b: Firm innovation capability is positively related to customer-based performance

Since MC (i.e. Vorhies and Morgan, 2005) and IC (i.e. Hurley and Hult, 1998) have been viewed individually as a source of superior CP, we contend that their complementarity possesses the characteristics of "asset interconnectedness" (Teece *et al.* 1997). This asset interconnectedness creates causal ambiguity that makes it extremely hard for rivals to imitate (Reed and Defillipi, 1990). It also requires that competitors acquire both the interconnected MC and IC of a high-performing firm that bases its strategy on these co-specialized capabilities to outperform its performance advantage (Morgan *et al.* 2009). Once firms

possess such complementarity, it becomes more dynamic which will be harder for competitors to imitate (Teece *et al.* 1997); thus, providing firms an advantage over rivals. Therefore,

H1c: The complementarity of firm marketing capability and innovation capability is positively related to customer-based performance.

In many Southeast Asian countries such as Cambodia where business operations are strongly influenced by influential figures in the government like in China, firms with strong network with the government officials gain competitive advantages over their rivals since the government still control significant portions of strategic factor sources and has considerable power to approve any projects (Peng and Luo, 2000). In addition, firms with strong networks with executives of other firms such as suppliers, buyers, and competitors (Dubini and Aldrich, 1991) can also strengthen their MC because 1) strong network with suppliers may help firm acquire quality materials, good services, and timely delivery, 2) strong network with buyers may spur customer loyalty, sales volume, and reliable payment, 3) strong networks with executives at competitor firms may facilitate possible inter-firm collaboration and implicit collusion, while minimizing uncertainties (Peng and Luo, 2000). Therefore,

H2a: Firm social networking capability strengthens the positive relationship between marketing capability and customer-based performance.

SNC is suggested to be a very important element for the development of innovations since most innovations are rooted, not exclusively within the firms, but instead at the intersections with actors outside the firm, including competitors and business partners (Pisano, 1990) or government (Peng and Luo, 2000). In addition, firms may need outside sources of cognition and competence to complement their own and need inter-firm linkages in order to convert knowledge into new types of knowledge and develop new products, process or services (Nonaka and Takeushi, 1995). Therefore,

H2b: Firm social networking capability strengthens the positive relationship between innovation capability and customer-based performance.

Specifically, since SNC has been argued to enhance the relationship between the individual capability (MC and IC) and firm's CP, we propose that it also enhances the relationship between the integration of the two capabilities and firm's CP. Therefore,

H2c: A firm's social networking capability strengthens the positive relationship between the integration of its marketing capability and innovation capability and customer-based performance.

Research Method

To test the hypotheses a survey of SMEs in Cambodia was undertaken. Following the procedure of Luo *et al.* (2005), we focused on firms located in the 9 provinces where the majority of firms are located in Cambodia. A random sample of 1,000 registered SME firms was withdrawn from the list of SMEs obtained from the Ministry of Industry, Mining and Industry. Selected firms were telephoned as the initial contact and invited to participate in the study. Following the procedure of Ngo and O'Cass (2009), a drop-and-collect technique was used. This technique is argued to be very suitable in developing countries (Ibeh and Brock, 2004) given identified issues with mail surveys and the unreliable nature of postal systems (Ellis, 2005). This technique improves the response rate compared to other impersonal delivery systems (Ibeh, *et al.* 2004) with 40 to 90% of response rate is expected (Balabanis and Diamantopoulos, 2004). An appointment was made with those who agreed to drop off the survey. Of the 1,000 firms contacted, 350 firms agreed to participate in the study and we obtained 184 usable surveys for a response rate of 53%.

MC was measured via the 9-item scale derived from Vorhies and Morgan (2005). A seven-point scale anchored by 1 'much worse than competitors' and 7 'much better than

competitors' was used in the current study. *IC* was measured via the 5-item scale. This scale was built on the works of Hurley and Hult (1998) and Calantone et al. (2002). A seven-point scale anchored by 1 'not at all' and 7 'extensively' was used in the current study. *SNC* was measured via the 6-item scale. This scale was built on the works of Peng and Luo (2000) and Acquaah (2007). A seven-point scale anchored by 1 'not at all' and 7 'extensively' was used to answer items 1 to 6. *CP* was measured via the 7-item scale derived from Morgan et al. (2009). A seven-point scale anchored by 1 'much worse than stated objectives' and 7 'much better than stated objectives' was used in the current study.

Analysis and Results

The analysis of the data in this study was performed holistically using partial least square (PLS) PLS Graph Version 3.00. All factor loadings were relatively high and significant, providing strong evidence for convergent validity (Bagozzi and Yi, 1988). Support for convergent validity is also demonstrated by the high average variance extracted (AVE) for all constructs (Bagozzi and Yi, 1988). All AVEs exceeded the recommended level of .50, ranging from .71 (IC) to .80 (MC). In assessing reliability, we examined composite reliability for each of the constructs, with reliabilities ranging from .92 (IC) to .97 (MC), indicating that our measures were reliable. We also found that discriminant validity is evident as the squared correlation between any pair of the constructs is less than the respective AVE of each of the constructs in the pair (Fornell and Larcker, 1981).

Hypothesis Testing

The results of our hierarchical moderated process analysis are reported in Table 1.

Table 1: Hierarchical Process Result

	Model 1	Model 3	Model 3
Dependent Variable: CP	b	b	b
Main Effect:			
Marketing Capability (MC)	.40	.43	.43
Innovation Capability (IC)	.27	.26	.26
Networking Capability (NC)	.25	.19	.19
Two-way interactions			
MC *NC		.11	.11
IC * NC		.10	.10
MC * IC		.10	.10
Three-way interaction			
MC * IC * NC			.007
R^2	0.65	0.68	0.68
Change in R^2 (f^2)		0.09	**0**

* $f^2 = [R^2$ (interaction effect mode) – R^2(main effect model)] / [1 – R^2 (main effect model)].

In Model 1 (R^2 = 65%), the hypothesized main effect were entered. Model 2 (R^2 = 68%) included the main effects, and the hypothesized two-way interaction terms. Finally, Model 3 (R^2 = 68%) included the main effects, two-way interaction terms, and the hypothesized three-way interaction terms. Hypotheses 1a and 1b stated that MC and IC are positively related to CP. Both hypotheses were supported with b = .40 and b = .27 respectively. Hypothesis 1c proposed that the complementary effect of MC and IC is positively related to CP. Hypotheses 2a and 2b proposed that the positive relationship between MC, IC and CP would be strengthened by SNC respectively. These three hypotheses were supported with two reasons. First, H1c (b = .10), H2a (b = .11), and H2b (b = .10) were significant and positive. Second, the change in R2 was satisfactorily accepted at the level of (f^2 = .09) as suggested by (Cohen, 1988). Hypothesis 2c asserted that SNC would enhance the MC – IC complementarity – CP relationship. Contrary to our expectation, hypothesis 2c was not supported (b = .007) with no change in R^2 (f^2 = 0).

Discussion of Findings

The finding of significant main effects of MC and IC on CP would come as no surprise to support the prior work of, for example, Vorhies and Morgan (2005) and Hurley and Hult (1998). The main effect of MC on CP was stronger than IC. This is not surprising given that marketing plays a dominant role in successful business activities in developing economy (Ellis, 2005) and appears to do so in Cambodia. Significantly, complementarity of MC and IC was found to have a positive relationship with CP. This finding provides an important contribution to the extension of capability-based theory on capability complementarity highlighted by Newbert (2007) and reaffirms the conventional wisdom by Drucker (1954) that marketing and innovation are two key functions that enable firms to create and serve customers. The results also suggest that firms with strong networks with executives of other firms (competitors, customers and supplier) and government officials would enhance their MC and IC respectively. The result supports our arguments that SNC enhances both functional capabilities. This result is explainable since firms operating in many Southeast Asian countries such as Cambodia where personal/organizational relationship is of significant when conducting a business (Hamilton, 1996) rely significantly on networks established with executives of other firms (Dubini and Aldrich, 1991) and government officials (Peng and Luo, 2000). SNC was also expected to enhance the MC – IC complementarity and CP relationship. Surprisingly, we found no support for this hypothesis. A possible explanation for this non-significant moderating effect is that once firms possess the complementarity of these two key capabilities, they will possess assets of interconnectedness which is hard for competitors to imitate, limiting the role of SNC in enhancing MC - IC complementarity – CP relationship.

Several managerial implications emerge from this study. First, we show that developing MC and IC simultaneously as well as improving the complementary effect of these two capabilities is a beneficial approach to preventing imitation of firm capabilities and enhancing marketplace outcomes. As such, firms must pay attention to both maintaining and developing MC and IC to be competitive and maintain superiority in the marketplace. More importantly, the findings not only underscore the individual contributions of MC and IC, but also lend support for the performance impact of capability complementarity between two specific and important functional capabilities. Once marketing and innovation work together effectively, the right messages can be obtained and the right products delivered to the customers, thereby, increasing customer value, satisfaction, and retention. The success of Apple is a typical example of how IC helps in creating customers and MC helps in retaining customers. Apple did not invent the portable digital music player. However, innovators such as Creative Labs may nevertheless be disadvantaged in this market by a lack of complementary capabilities - in this case specialized marketing. As such, MC and IC have greater synergy when combined to achieve common outcomes, and that their integration results in better CP. Significantly, developing and strengthening SNC with other firms and government officials may provide firms extra benefits to further enhance their MC and IC. This may occur because these stakeholders, external to the firm may possess resources, expertise and information which may not be available internally. However, we suggest that the managers should avoid being over-reliant on the external sources.

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