

IN SEARCH OF FINANCIAL PERFORMANCE SUPERIORITY VIA PRODUCT AND CUSTOMER PERFORMANCE OUTCOMES: THE ROLE OF COMPLEMENTARY RESOURCE-CAPABILITY COMBINATION WITHIN AND BETWEEN INNOVATION AND MARKETING AREAS

Phyra Sok, University of Tasmania, Australia, psok@utas.edu.au
Aron O'Cass, University of Tasmania, Australia, aron.ocass@utas.edu.au

ABSTRACT

The primary focus of this paper is to specifically examine the roles of complementary within innovation resources-capability and marketing resources-capability combinations in achieving financial performance through product and customer performance outcomes. Using data from 171 small and medium sized manufacturing firms, the results suggest that complementary innovation resources-capability combination, complementary marketing resources-capability combination and their interaction are positively related to financial performance through product and customer performance outcomes. Interestingly, the results indicate that innovation resources-capability complementarity contributes more to financial performance via product performance than via customer performance. Likewise, marketing resources-capability complementarity contributes more to financial performance via customer performance than via product performance.

Keywords: complementary resource-capability combination, innovation and marketing, product performance, customer performance, financial performance.

INTRODUCTION

The resource-based view (RBV) articulates a view that a firm's resources and capabilities underpin its ability to achieve superior performance outcomes [1-5]. While this point is valid and has much to offer, some scholars argue that much of the literature within RBV has emphasized performance at a macro-level in the form of firm profit and the like to the neglect of performance at a micro-level in areas such as customer performance and product performance [1,6,7]. Ray et al. [8] argue that while investigating the effect of a firm's resources and capabilities on financial performance may be of intrinsic interest to both scholars and managers, it may lead to misleading conclusion. Further Coff [9] argues that once we do not observe a firm experiencing high levels of performance does not mean that profits are not being generated. For example, firms that invest significant resources in developing new products may enjoy achieving superior product performance when the financial performance of these firms may not be high. Likewise, firms that invest significant resources in marketing their products and serving customers will yield superior customer performance when the financial performance of these firms may not be immediately seen.

This study argues that in the long run firms that achieve superior product performance [10] and customer performance [11] will ultimately achieve superior financial performance. This issue is important since managers are being pressured

and required to increasingly customize their products to meet customers' demands [12] and to serve customers better [11]. Despite the theoretical and practical importance of these issues revolving around macro-level and micro-level performance, surprisingly, little attention has been devoted to exploring performance at a micro-level covering product and customer performance as mechanisms through which firms realize their investments in resources and capabilities to achieve superior financial performance (macro-level).

While the work of Penrose [13] has been regarded as the founding mother of the RBV, Barney's [2] discussion of RBV is the first to formalize the RBV literature into a more cohesive theoretical framework where he proffered the view that a firm's heterogeneous resources [that meet the specific criterion of being valuable, rare, inimitable and non-substitutable (VRIN)] help firms achieve competitive advantage that eventually lead to superior financial performance. However, Barney's expression [2] of RBV has been strongly criticized over time, especially in regard to its rather static nature [14]. Further, some scholars have also argued that a firm may achieve superior financial performance, not because of its resources, but rather because it has distinctive capabilities that can be applied to leverage and deploy its resources [5,15]. Newbert [16] has later argued that resources and capabilities are effective only when they are deployed in combination. Further, the advancement on the notion of asset orchestration by Sirmon and Hitt [17] implies that superior financial performance is achieved not only when resources and capabilities are deployed in combination but also when resources and the processes by which these resources are deployed have a high degree of 'fit'. Despite the theoretical and practical importance of resource-capability combination raised by Newbert [16] and resource-capability complementarity raised by Sirmon and Hitt [17], surprisingly, much of the attention to firm financial performance within RBV has on either resources or capabilities separately.

Further, while studies by Newbert [16] and Sirmon and Hitt [17] attempt to enrich our understanding on the role of complementary resource-capability combinations in firm financial performance, scholars have not yet fully identified which complementary resource-capability combinations are critical and how combinations achieve superior financial performance. As such, the key for firms is to identify the complementary resource-capability combinations that will lead to superior financial performance.

In addition, whether complementary resources-capability combinations within different areas have different effects on different types of performance has not been investigated. This issue is critical since firms may possess superiority in some

resources and capabilities and inferiority in others and more importantly firms that possess specific resources and capabilities may achieve more in specific marketplace performance outcomes [9] that will eventually lead to superior financial performance.

Moreover, the limited attention given to the interplay between resources and capabilities (within specific area) in driving firm financial performance has seen scholars bypass an important issue in indentifying the complementary resource-capability combinations between areas that have the potential to be synergised to achieve superior financial performance. This study argues that the neglect on this important issue has left unexplored how firms may achieve beneficial outcomes through and prevent imitation through complementarity in resource-capability combinations both within and between specific areas within the firm.

The purpose of this study is to advance our understanding of the role of complementary resource-capability combinations within and between specific areas within firms in achieving superior performance at a micro-level (which we might view as first-order performance) in areas such as customer or product performance outcomes, as well macro-level (which we might view as second-order performance) financial performance. This study contributes to the literature in three primary ways. First, extending Drucker's [18] view that marketing and innovation are the keys for firm success and others who have put marketing [19,20] and innovation [21] at the forefront as drivers for achieving superior financial performance, this study identifies that complementary marketing resources-capability combination (R-C marketing) and complementary innovation resources-capability combination (R-C innovation) are the key drivers for firms achieving superior financial performance with respect to product and customer performance. Second, extending the notion of resources-capability combination proposed by Newbert [16] and Sirmon and Hitt [17], this study identifies that superior complementary resource-capability combination within different areas contribute differently to firm specific performance such as customer and product performance that will eventually lead to superior financial performance. Third, extending the work of Ray et al. [8], this study identifies how R-C marketing and R-C innovation and their interaction achieve superior financial performance (which we identify as macro-level performance) through the firms' customer and product performance (which we identify as micro-level performance).

THEORY AND HYPOTHESES

RBV addresses the importance of resources that are valuable, rare, imitable, and non-substitutable in driving firm superior performance [2,3]. While this argument has been widely accepted among scholars, it has been argued that resources are of no real value in isolation [5,15]. It is in fact how those resources are deployed through firm idiosyncratic capabilities in ways that match the firm's market environment that better explain firm performance differentials [4,5,15]. While these two approaches have dominated the debate in explaining firm performance differentials, the RBV's core logic has been

neglected. The early work within RBV by Winter [22] is; however, premised on the view that while resources are no doubt critical to firm's superiority in the marketplace, they are by themselves insufficient. They argue that with resources in hand, firms need to also possess capability to deploy those resources to achieve superior performance outcomes. In a similar vein, Connor [23] suggests that firms are seen as a pool of resources and capabilities implying that firms need to possess both resources and capabilities simultaneously to achieve superior performance. Consistent with this view, Newbert [16] has recently argued that resources and capabilities may have effect on firm performances only when they are deployed in combinations. It is because resources are statics [14] and have no value in isolation [24]. Capabilities, in a similar vein, do not produce any value without the presence of resources to be deployed [25]. Sirmon and Hitt [20] have later argued that the 'fit' between resource investments and their means of deployment is important for firm performance. Derived from this argument, one may argue that to achieve superior performance, firms may not only deploy resources and capabilities in combination but that resources and capabilities must complement one another. In this context, the key for firms is to identify and develop specific sets of complementary resources-capability combinations that will yield competitive advantage and eventually lead to superior firm performance.

Due to globalization and increases in competition, it is undeniable that every firm need to engage in developing superior products and introducing products to the market through cutting-edge marketing strategies to be successful in the marketplace. This assumption is also theoretically supported by the conventional wisdom proposed by Drucker [18] that firms must be good at both innovation and marketing to be successful. Further, there is also a strong evidence within the literature where scholars have put marketing [19,20] and innovation [21,22] at the forefront as drivers for firms to achieve superior performance.

Contingency theory emphasizes on the performance effects of 'fit' which has been defined as the matching of two or more organizational factors of concern [26]. Scholars have adopted the contingency perspectives and have examined many organizational factors including strategy/structure [27], strategy/environment [28] strategy/governance [29], resource investment decision and resource deployment decision [17], among others. Overall, these streams of research, spanning organization theory and strategic management, suggest that better fit yields higher performance. Despite the advances in our understanding of these particular contingencies, little is known about the outcomes of the relationship between resources and capabilities.

Building on this premise, this study proposes that innovation resources and innovation capability are complementary in ways that they are both at superior level and their interaction enhances the effectiveness and efficiency of the firms as do marketing resources and marketing capability. This study examines innovation resources (e.g., patents) as key innovation-based asset, marketing resources (e.g., firm reputation, product reputation) as key marketing-based assets,

innovation capability as a key innovation-relating deployment mechanism and marketing capability as a key marketing-relating deploying mechanism. Specifically, this study adopts the position that complementary resource-capability combination within specific areas (such as marketing or innovation) may not contribute to firm performance in isolation. This study further contends that the performance impact of complementary resource-capability combinations rest on the interaction effect between specific areas that are complementary with one another (such as marketing and innovation). Based on this theoretical platform, this study develops the theoretical model with testable hypotheses as shown in Figure 1.

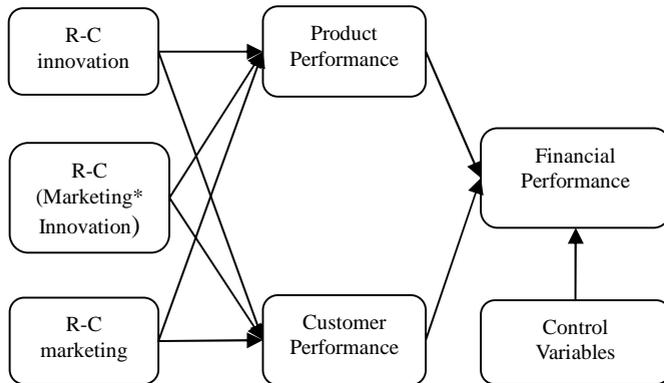


FIGURE1: Framework of the Study

The RBV has been adopted by scholars in various fields to explain differential firm performance. However, the issue of resources, capabilities and market context specificity has received little attention to-date except for [1,6,7]. Amit and Schoemaker [1] argue that resources are valuable in the context of a specific market, and Peteraf and Bergen [7] have linked the value of a resource and its application to the satisfaction of customer needs. Further, Collis and Montgomery [6] suggest that if a resource is valuable, it must contribute to the creation of something customers need. Following these theoretical contentions, customer and product performance are seen as a direct outcome in the context the firms' ability to develop new products and deliver them to the customers, attract and retain customers, satisfy customer and increase sales to customers [1,7,8] that will eventually lead to superior financial performance.

It has been argued that innovation capability [21] and marketing capability [19,20] are crucial in achieving superior firm performance by developing new products and getting the products to the market successfully. The connection between innovation and marketing capabilities and superiority in the marketplace becomes apparent when one considers the point that markets are increasingly characterized by shorter product life cycles. This indicates more dramatic changes in customer's preferences as customers tend to seek newer products and as such the firms' ability to renew market offering and deliverer those offering to customers has become significant [30]. Nonetheless, it must be noted that to develop their products, firms may need complementary innovation resources such as machinery, technology, license, patents and

the like to facilitate the manufacturing process. Innovation capability alone will not produce any superior products without the availability of innovation resources to be deployed [25]. Importantly, innovation capability enables firms to create new product offerings by leveraging innovation resources (such as patent, trademark and license) which make it extremely hard for rivals to imitate [31]. In a similar vein, innovation resources such as technology, patents, trademarks and licenses are insufficient by themselves to produce products without the existence of innovation capability to leverage and deploy them [32]. As such, firms possessing high level of R-C innovation are more likely to achieve superior product and customer performance that eventually leads to superior financial performance. Therefore,

H1: The relationship between complementary innovation resources-capability combination and financial performance is mediated by (a) product performance and (b) customer performance.

Similarly, to market and deliver products successfully to the marketplace, firms may need complementarity in marketing resources and capability. They need resources such as product reputation, company reputation and customer service reputation to facilitate the marketing process that results in product and customer related performance outcomes. Marketing capability alone is unlikely to bring the products to the market successfully. It is the reputation of the firm's products, the firm itself, and its customer service which act as the drivers of customer's choice [33]. In a similar vein, marketing resources such as product and company firm will not produce any value without the existence of marketing capability to leverage and deploy them [32]. As such, firms possessing high level of R-C marketing are more likely to achieve superior customer and product performance that eventually leads to superior financial performance. Therefore,

H2: The relationship between marketing resources-capability combination and financial performance is mediated by (a) customer performance and (b) product performance.

This study further argues that the achievement of superior financial performance via customer and product performance may be through the interaction effect of specific complementary resource-capability combinations within firms such as marketing resources-capability combination and innovation resources-capability combination that offer greater benefits than they offer in isolated form. Within this stream of research, there have been only a few studies focusing on the role of complementary capabilities in gaining marketplace advantage [34-36]. These studies deal with the complementary effects of marketing capability and R&D [34], and marketing capability and technology [35,36] to the neglect of the significant benefits and potential complementarity between marketing capability and innovation capability [22]. Extending this line of research, this study argues that the presence of both R-C innovation and R-C marketing is critical for firms to achieve superior financial performance via product and customer performance. This study adopts this position because firms that pursue specific market opportunities, but are not innovative, are less likely to achieve or be able to maintain superior performance over the long run [37]. Similarly, innovation is itself not necessarily the sole driver in achieving superior performance

because firms can leverage their innovation, develop offerings and or enter new markets, serve markets better or provide greater value than competitors if they possess strong marketing [38,39]. Therefore, firms that possess and deploy one resource-capability combination, but lack the other are at a disadvantage to those who possess and deploy both. As such firms possessing high level of the interaction effect between R-C innovation and R-C marketing are more likely to achieve superior customer and product performance that eventually leads to superior financial performance. Therefore,

H3: The relationship between the interaction between complementary innovation resources-capability combination and complementary marketing resources-capability combination and financial performance is mediated by (a) product performance and (b) customer performance.

Contingency theory also proposes that market and/or firm level influences may exist that make one or the other more important [40]. In line with this view of contingency theory, some scholars argue that different resources and capabilities (complementary resource-capability combination in this study) may produce different effects on different types of performance [8]. They further argue that specific resources and capabilities may be perceived as more important in achieving specific firm performance than others. Distinctive marketing should enable a firm to outperform its competitors by giving it the resources and ability to identify and serve the marketplace more effectively [41], yielding greater customer performance. Marketing is argued to enable firms to add value to their products and services to meet competitive demands [41] and plays a greater role in linking with serving customers and less of a role in actual product performance. This study extends previous research by arguing that firms that possess distinctive marketing are more likely to achieve superior performance in attracting customers, keeping them, satisfying them, and increasing sales to them which is at the heart of customer performance. This is similar to the point raised by Speed and Smith [42] that marketing offers a mechanism to improve competitiveness in the marketplace. The contention is raised here that marketing is a significant driver of a firms' competitiveness and thus firms that possess distinctive marketing will have greater customer performance. Given that marketing contributes significantly to achieving customer performance, we contend that innovation contributes less to achieving customer performance. This does not imply that innovation contributes nothing. Innovation performs a vital role in delivering to the firm the products sought after in the market. It is through innovation that firms transform customer needs into quality products that can be leveraged to earn revenue.

An examination of the extant literature reveals that innovation is often tied more strongly into product performance than customer performance. Innovation is often tied to issues such as number of innovations, timeliness in developing products and newness of products developed [21]. However, the current body of work in these areas provides the basis for examining the relationship between innovation and customer performance as well as product performance. Innovation often creates leaps in market offerings, where customers seek out innovative products [43]. Indeed, innovation helps firms

develop leading edge positions based on their breakthroughs, the timeliness of product developed and market entry and the newness are all driven by a firm's innovation. In these areas marketing play a lesser role as the firm's complementary innovation resources-capability combination is strongly geared toward product performance than complementary marketing resources-capability combination is. Therefore,

H4a: Product performance has a stronger meditational role on complementary innovation resources-capability combination – financial performance relationship than customer performance.

H4b: Customer performance has a stronger meditational role on complementary marketing resources-capability combination – financial performance relationship than product performance.

METHOD

The respondents for this study are Cambodian SMEs selected from provinces where the majority of manufacturing SME firms located [44]. Selected respondents were sorted alphabetically and by provinces from the list of all SMEs manufacturing firms obtained from the Ministry of Industry, Mining, and Energy of Cambodia. After the first initial contact, 350 firms agree to participate in the study. The most senior manager within each firm were the specific respondents chosen for this study as they are in a good position to respond to measures pertaining to capabilities and firm performance and that managerial perception is appropriate and yields reliable information [16,19,45]. Expert judgement and pre-test were conducted to enhance the clarity and readability of all items in the survey. One professional translator translated the original questionnaire in English to Khmer and then a second professional translator translated back from Khmer to English. Any differences were reconciled [46].

To ensure the integrity and reliability of the responses obtained, in line with Vorhies et al's [20] approach, this study developed two specific questions to assess respondents' knowledge and confidence. The respondents were firstly asked to identify their knowledge about their firms' business operations, business processes, performance and business environment (at the beginning of the survey). They, then, were asked to rate their confident level in possessing necessary knowledge to complete the questionnaire (at the end of the survey) using 7-point Likert scale. Any respondents who answered below 5 to any of the two questions were dropped.

This study adopted drop-and-collect technique which is deemed suitable in developing countries [45] where issue with mail surveys and unreliable postal system [47]. This technique helps improve the response rates [48] expecting between 40% and 90% response rate [49]. Further, this technique is argued to be appropriate when conducting a survey in countries such as Cambodia where personal interaction is crucial for information exchange [50]. Of the 350 surveys distributed, 171 usable surveys were collected for a response rate of 49%.

Innovation Resources were measured via the 5-item scale adopted from [51]. Respondents were asked to rate the extent their firms possess innovation resources namely innovation resources (equipment and machinery), license, trademark, patent and financial resources (allocated for innovation-related activities) benchmarking to the industry average. A seven-point scale anchored by 1 'well below industry average' and 7 'well above industry average' was used in the current study. *Marketing resources* were measured via the 4-item scale adopted from [51]. Respondents were asked to rate the extent their firms possess marketing resources namely company reputation, product reputation, customer service reputation and financial resources (allocated for marketing-related activities) benchmarking to the industry average. A seven-point scale anchored by 1 'well below industry average' and 7 'well above industry average' was used in the current study. *Innovation Capability* was measured via the 5-item scale. This scale was built on the works of [52,53]. The innovation capability construct captures the firm's ability to undertake specific routines and business processes to exploit the most-up-to-date technology available, developing new products, extending the firm's product range, improving existing product quality and improving product flexibility. A seven-point scale with anchors of 1 'not at all' and 7 'extensively' was used. *Marketing Capability* was measured via the 9-item scale adopted from [19]. The measure captures the firm's ability to utilize their marketing tools (routines and processes) they have in place to price, launch, distribute, and sell the products as well as developing and executing advertising and promotion, analyzing market information, managing sales, developing creative marketing strategies and translating marketing strategies into actions better than competitors. A seven-point scale with 1 'much worse than competitors' and 7 'much better than competitors' anchors was used. The use of different scale anchors when measuring firm capabilities has been adopted in previous research [19,41,54] and in this study the measures were based as close as possible on the historical approach to the specific construct's measurement.

Product Performance was measured via the 2-item scale. This scale was based on the work of [21,53]. Items that capture aspects of introducing new products and the number of successful new products were adopted. In this context new products can be either completely new products or new product adaptations. A seven-point scale anchored by 1 'much worse than competitors, many less than competitors, much slower than competitors' and 7 'much better than competitors, many more than competitors, much faster than competitors'. *Customer Performance* was measured via the 2-item scale. This scale was built on the work of [19,20]. The respondents were asked to identify a particular new product or a product adaptation and rate the level of satisfying and delivering value to customers for that particular product on a seven-point scale anchored by 1 'much worse than major competitors' and 7 'much better than major competitors'. *Financial Performance* was measured via the 2-item scale. This scale was built on the work of [19,20]. The respondents were asked to rate the level of profit and return on investment for the new product or a product adaptation they identified in the customer performance setting on a seven-point scale anchored by 1

'much worse than major competitors' and 7 'much better than major competitors'. This study controlled firm size, firm age, industry type, market uncertainty and technology uncertainty in testing our model. This study measured firm size and firm age with the logarithm of the number of employees to prevent. This study (dummy) coded firms based on the industry type they represent. Technology uncertainty was measured via 4-item scale while market uncertainty was measured via 6-item scale adopted from Jaworski and Kohli [55]. A seven-point scale anchored by 1 'strongly disagree' and 7 'strongly agree' was used in the current study.

DATA ANALYSIS AND RESULTS

Non-response bias was examined by comparing firms who had completed and returned the questionnaire (171) with those who had not (179) [56]. There was no significant difference in terms of sales and firm size (number of employees obtained from MIME) among the two groups, showing that the non-response was not a serious threat for the current study. We took another approach in comparing the average values found by the questionnaire of the first 10% of respondents with those of the last 10% using t-test [21]. There was no statistical difference from the result of the t-test between the two groups in term of the means for items, showing again that the non-response bias was not a serious concern in the current study.

Adopting a two-step analytical procedure similar to Hair et al. [57] and Hulland [58] the psychometric property of the measurement model and purified measured were first assessed and validated and then the structural model was assessed. The factor loadings for all items were well above the benchmarks while the average variance extracted (AVE) for all constructs exceed the recommended level of .50, thus, providing evidence for convergent validity [59]. The composite reliability for each of the constructs is well above the benchmarked level of .70, thus indicating that the measures were reliable [60]. Table 1 summarizes the results of factor loadings, AVE and the composite reliability test. Fornell and Larcker [61] suggest that that discriminant validity is evident if the square root of the AVE is greater than all corresponding correlations while O'Cass and Ngo [62] suggest that satisfactory discriminant validity among constructs is obtained when the correlation between two composite constructs (the off-diagonal entries) are not higher than their respective reliability estimates. As shown in Table 2, the square roots of the AVE values are consistently greater than the off-diagonal correlations and at the same time no individual correlations were higher than their respective reliabilities, thus indicating satisfactory discriminant validity of all constructs. Further, because the variance inflation factor (VIF) for all constructs range between 2.16 and 4.86, well below the VIF of 6 that Hair *et al.* [57] suggest is indicative of harmful collinearity, it is assumed that all the correlations will not confound the results of any subsequent statistic tests [16]. On the basis of our reliability, convergent, and discriminant validity tests, we concluded that our measurement model satisfied psychometric property requirements.

TABLE 1: Measurement Model

Construct	Items	Loading	t-values
Marketing Capability (CR = 0.96, AVE = 0.79)	<i>(7-point scale 1= "much worse than competitors" and 7= "much better than competitors")</i> Our firms' marketing activities, compared to our major competitors, in terms of		
	MC1: Doing an effective job of pricing products has been	.86	51.94
	MC2: Test marketing of new products has been	.89	72.68
	MC3: Launching new products has been	.89	84.34
	MC4: Attracting and retaining the best distributors have been	.89	89.55
	MC5: Developing and executing advertising & promotion programs has been	.88	71.21
	MC6: Analysing market information has been	.89	76.39
	MC7: Sales management has been	.90	89.03
	MC8: Developing creative marketing strategies has been	.88	54.14
	MC9: Translating marketing strategies into action has been	.88	61.57
Innovation Capability (CR = 0.89, AVE = 0.70)	<i>(7-point scale 1= "not at all" and 7= "extensively")</i> Within this firm we have activities, routines, business processes and behaviours for		
	IC1: Exploiting the most-up-to-date technology available	.82	31.75
	IC2: Developing new products	.86	46.51
	IC3: Extending the firm's product range	.86	40.77
	IC4: Improving existing product quality	.82	33.03
Marketing Resources (CR = 0.91, AVE = 0.79)	<i>(7-point scale 1= "well below industry average" and 7 "well above industry average")</i> Think about the competitive environment you operate in and indicate the extent to which you possess the following resources at a superior level to the industry average		
	MarR1: Company reputation	.91	68.51
	MarR2: Customer service reputation	.92	116.07
	MarR3: Product reputation	.92	102.83
	MarR4: Financial resources (allocated for marketing activities)	.78	25.48
Innovation Resources (CR = 0.92, AVE = 0.75)	<i>(7-point scale 1= "well below industry average" and 7 "well above industry average")</i> Think about the competitive environment you operate in and indicate the extent to which you possess the following resources at a superior level to the industry average		
	InnR1: Technological Resources (Machinery and equipment)	.84	42.73
	InnR2: Patent	.87	46.90
	InnR3: License	.88	59.81
	InnR4: Trademarks	.87	49.17
	InnR5: Financial resources (allocated for innovation activities)	.84	41.20

Customer Performance (CR= 0.90, AVE = 0.91)	<i>(7-point scale 1= "much worse than competitors" and 7 "much better than competitors")</i> Our firm's performance, compared to our major competitors, in terms of (for a particular product)		
	CP1: Customer satisfaction has been	.92	68.42
Product Performance (CR = 0.91, AVE = 0.92)	<i>(7-point scale 1= "much worse than competitors; many less than competitors" and 7 "much better than competitors; many more than competitors")</i> Our firm's performance, compared to our major competitors, in terms of		
	PP1: Introduction of new product (completely new product and/or new product adaptation) has been	.92	71.53
	PP2: Our firm's performance, compared to our major competitors, in terms of the number of successful new product (completely new product and/or new product adaptation) has been	.93	72.65
	FP1: Profitability has been	.93	69.32
Financial Performance (CR = 0.90, AVE = 0.91)	<i>(7-point scale 1= "much worse than stated objectives" and 7 "much better than stated objective")</i> Our firm's performance, compared to our stated objectives, in terms of (for a particular product)		
	FP2: Return on investment has been	.93	72.15

TABLE 2: Descriptive statistics and construct inter-correlations (N = 171)

	Rel	M	STD	MarR	InnR	MC	IC	PP	CP	FP
Mar. Res. (MarR)	.91	4.61	1.20	.89						
Inn. Res. (InnR)	.92	4.31	1.09	.72	.87					
Mar. Cap. (MC)	.96	4.32	1.21	.55	.45	.89				
Inn. Cap. (IC)	.89	4.64	1.18	.56	.43	.67	.84			
Pro. Per. (PP)	.91	4.20	1.28	.62	.66	.65	.60	.96		
Cus. Per. (CP)	.90	4.47	1.26	.59	.58	.63	.61	.83	.95	
Fin. Per. (FP)	.90	4.32	1.31	.64	.64	.61	.62	.86	.80	.95

Hypothesis Testing

This study used Partial Least Squares (PLS) to test the proposed hypotheses. The bootstrapping procedure as outlined by Brown and Chin [63] for testing the proposed hypotheses was undertaken. Test of significance of all paths was performed on the basis of 500 bootstrapping runs as suggested by Chin [64] and others.

This study followed Baron and Kenny's [65] procedure and estimated in total 12 models in testing the hypotheses. According to Baron and Kenny [65] to establish mediation, four conditions must hold: (1) the independent variable must affect the dependent variable; (2) the independent variable must affect the mediator; (3) the mediators must affect the dependent variable; and (4) when mediators are entered into the model, the contribution of a previously significant independent variable must drop substantially for partial mediation and become insignificant for full mediation.

To test hypothesis 1a, which predicts that product performance mediates the effect of R-C innovation on financial performance we developed Model 1 and Model 2. As shown in Table 3, R-C innovation positively influences financial performance (Model 1, $\beta=0.34$ t -value=4.16) and product performance (Model 2, $\beta=0.30$ t -value=3.84), which also positively influences on financial performance (Model 2, $\beta=0.83$ t -value=34.08). Comparing Models 1 and 2, this study found that the positive effect of R-C innovation in Model 1 becomes significantly weaker in Model 2 ($\beta=0.34$ vs. $\beta=0.10$). Therefore, product performance partially mediates the relationship between R-C innovation and financial performance, supporting hypothesis 1a. To test hypothesis 1b, which predicts that customer performance mediates the effect of R-C innovation on financial performance, this study developed Model 3. As shown in Table 3, R-C innovation positively influences financial performance (Model 1, $\beta=0.34$ t -value=4.16) and customer performance (Model 3, $\beta=0.29$ t -value=3.45), which also positively influences financial performance (Model 3, $\beta=0.77$ t -value=21.52). Comparing Models 1 and 3, this study found that the positive effect of R-C innovation in Model 1 becomes significantly weaker in Model 3 ($\beta=0.34$ vs. $\beta=0.11$). Therefore, customer performance partially mediates the relationship between R-C innovation and financial performance, supporting hypothesis 1b.

To test hypothesis 2a, which predicts that customer performance mediates the effect of R-C marketing on financial performance, this study developed Model 4 and Model 5. As shown in Table 3, R-C marketing positively influences financial performance (Model 4, $\beta=0.38$ t -value=4.81) and customer performance (Model 5, $\beta=0.31$ t -value=3.68), which also positively influences financial performance (Model 5, $\beta=0.82$ t -value=33.14). Comparing Models 4 and 5, this study found that the positive effect of R-C marketing in Model 4 becomes significantly weaker in Model 5 ($\beta=0.38$ vs. $\beta=0.13$). Therefore, customer performance partially mediates the relationship between R-C marketing and financial performance, supporting hypothesis 2a. To test hypothesis 2b, which predicts that product

performance mediates the effect of R-C marketing on financial performance, this study developed Model 6. As shown in Table 3, R-C marketing positively influences financial performance (Model 4, $\beta=0.38$ t -value=4.81) and product performance (Model 6, $\beta=0.29$ t -value=3.60), which also positively influences financial performance (Model 6, $\beta=0.75$ t -value=24.04). Comparing Models 4 and 6, this study found that the positive effect of R-C marketing in Model 4 becomes significantly weaker in Model 6 ($\beta=0.38$ vs. $\beta=0.16$). Therefore, product performance partially mediates the relationship between R-C marketing and financial performance, supporting hypothesis 2b.

To test hypothesis 3a, which predicts that product performance mediates the effect of the interaction between R-C innovation and R-C marketing on financial performance, this study developed Model 7 and Model 8. As shown in Table 3, the interaction between R-C innovation and R-C marketing positively influences financial performance (Model 7, $\beta=0.24$ t -value=2.35) and product performance (Model 8, $\beta=0.20$ t -value=2.10), which also positively influences financial performance (Model 8, $\beta=0.84$ t -value=43.72). Comparing Models 7 and Model 8, this study found that the positive effect of the interaction between R-C innovation and R-C marketing in Model 7 becomes insignificant in Model 8 ($\beta=0.24$ vs. $\beta=0.07$). Therefore, product performance fully mediates the relationship between the interaction between R-C innovation and R-C marketing and financial performance, supporting hypothesis 3a. To test hypothesis 3b, which predicts that customer performance mediates the effect of the interaction between R-C innovation and R-C marketing on financial performance, this study developed Model 9. As shown in Table 3, the interaction between R-C innovation and R-C marketing positively influences financial performance (Model 7, $\beta=0.24$ t -value=2.35) and customer performance (Model 9, $\beta=0.17$ t -value=2.05), which also positively influences financial performance (Model 9, $\beta=0.78$ t -value=34.67). Comparing Models 7 and Model 9, this study found that the positive effect of the interaction between R-C innovation and R-C marketing in Model 7 becomes significantly weaker in Model 9 ($\beta=0.24$ vs. $\beta=0.10$). Therefore, customer performance partially mediates the relationship between the interaction between R-C innovation and R-C marketing and financial performance, supporting hypothesis 3b.

This study also conducted Sobel's [66,67] test to determine whether the mediating variables carried the effect of the independent variable on the endogenous variables. Significant t -values indicate that product performance and customer performance are critical mediators of the linkages between R-C innovation, R-C marketing, the interaction between R-C innovation and R-C marketing and financial performance.

Hypothesis 4a predicts that product performance has a stronger meditational role on R-C innovation – financial performance relationship than customer performance. Comparing Models 1, 2 and 3, this study found that the positive effect of R-C innovation in Model 1 drops more significantly in Model 2 ($\beta=0.34$ vs. $\beta=0.10$) than in Model 3 ($\beta=0.34$ vs. $\beta=0.11$). Therefore, hypothesis 4a is supported. To further support Hypothesis 4a this study developed Model

10 and Model 11. Comparing Model 10 and Model 11, it is evidenced that R-C innovation has a stronger relationship with product performance ($b = .30, t = 3.49$) than with customer performance ($b = .28, t = 3.25$) further supporting hypothesis 4a. Hypothesis 4b predicts that customer performance has a stronger meditational role on R-C marketing – financial performance relationship than product performance. Comparing Models 4, 5 and 6, this study found that the positive effect of R-C marketing in Model 4 drops more significantly in Model 5 ($=0.38$ vs. $=0.13$) than in Model 6 ($=0.38$ vs. $=0.16$). Therefore, hypothesis 4b is supported. To further support Hypothesis 4b this study developed Model 11 and Model 12. Comparing Model 11 and Model 12, it is evidenced that R-C marketing has a stronger relationship with customer performance ($b = .31, t = 4.63$) than with product performance ($b = .29, t = 4.24$) further supporting hypothesis 4b.

This study further undertook a Hotelling-Williams test as recommended by Steiger [68] to further support hypotheses 4a and 4b by comparing non-independent correlations that share a common variable. The results of the test indicate that R-C innovation has a stronger relationship with product performance than customer performance (InnR*IC-PP vs MarR*MC-PP $t = 1.98$). The results also indicate that R-C marketing has a stronger relationship with customer performance than product performance (MarR*MC-CP vs InnR*IC-CP $t = 2.10$). Thus, hypotheses 4a and 4b were supported.

DISCUSSION AND IMPLICATIONS

The key objectives of this study were, firstly, to advance our understanding the role of complementary resource-capability combinations within and between specific areas by examining how R-C innovation and R-C marketing and their interaction contribute to the achievement of superior financial performance with respect to product and marketing performance as the two performance at disaggregated levels. Further, this study provides theoretical and empirical evidence that R-C innovation and R-C marketing and their interaction facilitate a firm's product and customer performance, which in turn positively influence financial performance and thus indicate a meditational role of complementary resource-capability combination (both within and between innovation and marketing areas) – performance at disaggregated level (product and customer performance) – financial performance linkages. In addition, this study identifies that there is a stronger contribution from R-C innovation to financial performance via product performance compared to that via customer performance. Likewise, there is also a stronger contribution from R-C marketing to financial performance via customer performance compared to that via product performance.

Given the findings, this study offers several distinct contributions. First, although the core logic of RBV argues that the possession of heterogeneous resources [2,3] or capabilities [6,18] may result in superior firm performance scholars still have limited understanding on what and how firms deploy resources and capabilities simultaneously to

achieve superior financial performance [16]. More importantly, little if any research has adopted the approach pursued here. This study contributes significantly to the literature which to-date has not empirically investigated the nature of complementary resource-capability combination in contributing to superior financial performance [69]. Extending [16] argument, the findings also go some ways in supporting the view drawn from asset orchestration literature by Sirmon and Hitt [17] that superior firm performance is achieved not only when resources and capabilities are deployed in combination but also when resources and the processes by which these resources are deployed are fit or complementary. As such, our advice to manager is that firms must possess superior level of resources coupled with complementary superior capabilities to deploy these resources to be successful in the marketplace because these resources and capabilities are intricately linked and inter-dependent and will not produce any value if deployed in isolation.

Second, identifying R-C innovation and R-C marketing as the key areas firms must be good at to achieve superior financial performance helps reaffirms the conventional wisdom by Drucker [18] that innovation and market are the two key areas that enable firms to be successful in the marketplace. Unlike previous scholars who have put innovation capability [21] and marketing capability [19,20] at the forefront for firms achieving superior financial performance, the findings of this study address R-C marketing and R-C innovation in achieving superior financial performance via to the ability to achieve product and customer performance outcome from R-C combinations.

The findings that R-C innovation and R-C marketing interact to achieve superior financial performance go beyond the works of Morgan et al. [19], Mizik and Jacobson [34], Moorman and Slotegraaf [35], Song et al. [36], and Menguc and Auh [70] who have dealt with the role of complementary capabilities in gaining marketplace advantage. The findings also provide an important theoretical and empirical contribution to the current literature which has to-date failed to identify the role resource-capability combinations within specific areas in achieving performance outcomes, as well as their potential to interact with one another between areas to create synergy in achieving superior performance in the form of financial outcomes (e.g., profits and return on investment). The findings not only underscore the individual contribution of R-C innovation and I-R marketing, but also lend support for the financial performance impact of the beneficial interaction between the two important areas via product and customer performance outcome. Marketing allows firms to understand customer needs and link with them. In return, innovation allows firms to transform these customer needs into quality products that then can be leveraged to satisfy and retain customers to achieve financial performance goal. The value of innovation is contingent upon effective understanding of customer needs and linking with customers via marketing. Extending the view of Teece et al. [5] and Vorhies et al. [20], the findings contribute significantly to the literature by suggesting that some firms may outperform others not only because they possess a specific individual resource-capability combination, but also because they possess

resource-capability combinations that are complementary to each other and are characterized as possessing asset interconnectedness which is extremely hard for competitors to imitate. This study takes the view that firms need a balanced approach to developing and managing these two key areas to achieve optimal results in financial performance via product and customer performance. The findings of this study reinforce the necessity for a balance between innovation and marketing in reaping specific performance outcomes that will eventually lead to superior financial performance. The interaction effect between the two compared to the independent effect of each is a critical issue that needs further attention. As such, firms may consider specific performance objectives that can help firm achieve superior financial performance by considering both innovation and marketing synergy.

Third, the findings of the meditational roles of product and customer performance in facilitating complementary resource-capability combinations within and between innovation and marketing areas to achieve superior financial performance contribute significantly to the literature by addressing concern raised by Ray et al. [8] that linking firm's resources and capabilities directly to firm's financial performance may lead to misleading conclusions. It is because some firms may possess superior in some resources and capabilities and inferiority in others and more importantly firms that possess specific resources and capabilities may achieve more in specific marketplace performance outcomes. The findings also advance our understanding the role of performance at a micro-level and macro-level by identifying that firms that achieve superior product performance gain superior financial performance as a result. Similarly, firms that achieve superior customer performance also gain superior financial performance as a result. As such our advice to managers is that they may prioritize performance goals at a micro-level by delivering more product choices to meet customers' demand [12] and serving customers better than their rivals [11]. Even though such a focus for managers may be costly [8] firms will gain subsequent financial performance in increasingly competitive environments.

Fourth, the findings that product performance has a stronger meditational role on R-C innovation – financial performance relationship than customer performance as well as the findings that customer performance has a stronger meditational role on R-C marketing – financial performance relationship than product performance help verify the argument by Ray et al. [8] and Newbert [69] that particular resources and capabilities may contribute differently to particular performance outcomes at disaggregated levels. This study shows that resources and capabilities associated with innovation contribute more significantly to product performance while resources and capabilities associated with marketing contribute more significantly to customer performance. As such, our advice to managers is that if firms seek to achieve superiority in product performance, firms need to give increased consideration to developing superior innovation resources and innovation capability. On the other hand, if firms seek to achieve superiority in customer performance, firms need to give increased consideration to developing

superior marketing resources and marketing capability.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The findings of this study should be considered in the light of specific limitations. First, even though the approach adopted in this study to measuring firm resources, capabilities and firm performance is in line with the existing literature [19,20,51,54], we realize that the cross-sectional data employed in this study may not provide the same insight into the dynamics of the complementarity within marketing resources-capability area, and complementarity within the innovation resources-capability area, and product, customer and financial performance relationships as would a longitudinal design. Hence, future research using longitudinal data may help evaluating the prescribed order of investment in developing the relationships among innovation resources, marketing resources, innovation capability, marketing capability, product performance, customer performance and financial performance. Second, this study focuses on SMEs in emerging country (Cambodia). Future research may focus on large firms in emerging countries or developed countries to help prove the validity of the model being studied. Third, drawing on RBV, this study focuses on R-C innovation and R-C marketing and their complementarity. Future research may take into account the role of R-C learning since it is argued that firms that possess abilities to analyse their unsuccessful business operations in areas such as innovation and marketing can improve their product offerings and serve customers better in a long run [52]. This approach may also be extended to bring a broader set of R-C combinations by focusing on areas such as operations, technology and the like. Fourth, the results are also limited in the context of the single and perceptual view of managers in measuring product, customer and financial performance. Future research may attempt to measure customer performance in terms of both firm and customer perceptions, product performance in terms of both firm and competitor perceptions, and financial performance in terms of both subjective and objective data.

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TABLE 3: Hypotheses 1 and 2: Structural Equation Parameter Estimates (t-value)

Independent variables	Endogenous variable									
	Hypothesis 1a			Hypothesis 1b		Hypothesis 2a			Hypothesis 2b	
	Model 1	Model 2		Model 3		Model 4	Model 5		Model 6	
	FP	PP	FP	CP	FP	FP	CP	FP	PP	FP
IRIC	.34*** (4.16)	.30*** (3.84)	.10* (2.10)	.29*** (3.45)	.11* (2.20)					
PP			.83*** (34.08)							
CP				.77*** (21.52)						
MRMC						.38*** (4.81)	.31*** (3.68)	.13** (3.26)	.29** (3.60)	.16** (3.36)
CP								.82*** (33.14)		
PP									.75*** (24.04)	
Control Variables										
Firm age	.04 (0.40)		.05 (0.92)	.05 (0.91)	.04 (0.46)			.05 (0.85)		.04 (0.87)
Firm Size	.16 (1.74)		.02 (0.48)	.02 (0.27)	.15 (1.64)			.02 (0.30)		.02 (0.43)
Industry Type	.01 (0.19)		.02 (0.48)	.05 (0.95)	.01 (0.16)			.05 (1.18)		.03 (0.70)
Technology Uncertainty	.01 (0.19)		.03 (0.76)	.07 (1.50)	.04 (0.48)			.03 (0.62)		.04 (0.95)
Market Uncertainty	.11 (1.40)		.00 (0.08)	.09 (1.66)	.11 (1.53)			.07 (1.55)		.00 (0.01)

TABLE 3 (Con't): Hypotheses 3 and 4: Structural Equation Parameter Estimates (t-value)

Independent variables	Endogenous variable									
	Hypothesis 3a			Hypothesis 3b		Hypothesis 4a		Hypothesis 4b		
	Model 1	Model 2		Model 3		Model 4	Model 5	Model 6	Model 7	
	FP	PP	FP	CP	FP	PP	CP	CP	PP	
(IRIC)X(MRMC)	.24** (2.35)	.20* (2.10)	.07 (1.92)	.17* (2.05)	.10* (1.96)					
PP			.84*** (43.72)							
CP					.78*** (34.67)					
IRIC						30*** (3.49)	28*** (3.25)			
MRMC								31*** (4.63)	29*** (4.24)	
Control Variables										
Firm age	.05 (0.53)		.04 (0.82)		.06 (.0.91)	.11 (1.11)	.02 (0.22)	.01 (0.10)	.11 (1.30)	
Firm Size	.19* (1.97)		.03 (0.59)		.01 (0.12)	.17* (1.98)	.23** (2.61)	.23** (2.22)	.16* (1.97)	
Industry Type	.03 (0.46)		.01 (0.32)		.04 (0.78)	.04 (0.49)	.08 (1.14)	.06 (0.81)	.02 (0.27)	
Technology Uncertainty	.01 (0.17)		.03 (0.74)		.02 (0.41)	.03 (0.34)	.01 (0.09)	.01 (0.10)	.01 (0.11)	
Market Uncertainty	.13 (1.66)		.00 (0.15)		.07 (1.62)	.12 (1.74)	.04 (0.63)	.06 (0.73)	.13 (1.82)	