



Marketing capabilities: Antecedents and implications for B2B SME performance

Bill Merrilees*, Sharyn Rundle-Thiele, Ashley Lye

Department of Marketing, Griffith University, Gold Coast Campus, Queensland, Australia, 4222

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ABSTRACT

The study provides a new perspective on SME marketing strategies in the B2B context. Using a resource-based view of the firm, the study develops a structural model linking marketing capabilities and marketing performance. A study of 367 SME Australian firms reveals that two key marketing capabilities, namely branding and innovation, have major performance outcomes in the SME B2B context. This is the first SME study to evaluate *concurrently* the contribution of innovation and branding marketing capabilities, with innovation capability the strongest determinant of SME performance. The study also finds market orientation and management capability act as enabling mechanisms for building marketing capabilities. Disaggregation tests indicate that the same findings apply to three size categories denoting micro firms (less than 20 staff), small firms (20–99 staff) and medium-sized firms (100–499 staff).

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1. Introduction

Using a resource-based theory of the firm, the current study explores which marketing capabilities impact SME performance. Current approaches usually focus on a single marketing capability, often innovation (O'Dwyer, Gilmore, & Carson, 2009) or branding (Abimbola & Vallaster, 2007) as potential key drivers of SME performance. While such approaches are useful and indicate that each driver is important, they do not establish a pecking order of importance, nor do they indicate a clear mechanism for improving performance. The current study provides a more comprehensive approach to assessing the relative contribution of two major, higher-level marketing capabilities, innovation and branding, to marketing performance.

One objective of the current paper is to progress the literature in terms of assessing the contribution of higher-level marketing capabilities to performance. In particular, it is unclear which of the higher-order capabilities are most important to performance. A second objective is to model such assessments in the context of B2B SME firms. Very little is known about the relative contribution of different higher-order marketing capabilities in the SME context. A third objective is to examine the relative contribution of marketing support capabilities to each of the higher-level marketing capabilities. Evaluating such relative contributions clarifies the mechanisms by which marketing capabilities are created and managed. A fourth objective is a specific variation of the third, namely in terms of explaining innovation capability, to test whether firm size is a

moderator rather than an *antecedent* to the innovation process (Harmancioglu, Droge, & Calantone, 2009).

To address these objectives, we first provide a broad theoretical context. Then we conceptualize directional relationships between particular higher-order marketing capabilities (innovation and branding) and marketing performance. Next, we conceptualize the relationship between marketing support capabilities (market orientation and management) and each of the marketing capabilities. The structural model is developed by conceptualizing the relationship from marketing performance to financial performance. The total structural model is estimated using structural equation modeling (AMOS software) with a sample of 367 Australian SMEs in the B2B sector. Additional tests use multiple regression analysis at a disaggregated level, with three different firm size levels. In particular, the disaggregation method tests whether firm size moderates marketing capabilities.

Firm size is an important dimension of the study. The upper size boundary for a small and medium-sized firm lacks consensus, but the current study adopts a common choice, namely 499 (Berthon, Ewing, & Napoli, 2008; Hooley, Greenly, Cadogan, & Fahy, 2005; Motwani, Dandridge, Jiang, & Soderquist, 1999; Pfirrmann, 1995). The range of 1–499 covers a potentially wide diversity of resource endowments and behaviors, leading many researchers to distinguish between *small* (defined here as less than 100 employees), and *medium-sized* (100–499) firms. Selection of the 100 cutoff-level is commonly used (Bonaccorsi, 1992; Coviello, Brodie, & Munroe, 2000; Motwani et al., 1999). Within the small category, a further division between small (defined as 20–99 in our study) and very small or micro (defined as less than 20 employees in our study), allows for further potential size-based differences in behavior. The aim is to make the micro size cutoff as small as practical, noting a range of cutoff selections in the literature, 20 (Bonaccorsi, 1992; Cobbenhagen, 2000; Hooley et al.,

* Corresponding author. Tel.: +61 7 5552 7176; fax: +61 7 5552 9039.
E-mail address: bill.merrilees@griffith.edu.au (B. Merrilees).

2005; Lybaert, 1998), 25 (Berthon et al., 2008) and 50 (Motwani et al., 1999).

2. Theoretical context

The resource-based view of the firm argues that competitive advantage and hence performance depend on resource endowments (Hooley & Greenley, 2005). Newbert (2007), in his review of empirical research on the resource-based view of the firm, emphasizes *capabilities* rather than *resources*, in terms of relevance and potential impact on performance. Resources *per se* cannot do anything. What is important is the capacity to utilize resources effectively, that is, a capability. Recent work (Liao, Kickul, & Ma, 2009) also emphasizes the greater relevance and importance of capabilities compared to resources.

Day (1994) especially focuses on marketing capabilities, with a special focus on market sensing and customer-linking capabilities. Subsequent conceptual literature has endorsed the relevance of marketing capabilities to understanding firm strategy and performance (Srivastava, Shervani, & Fahey, 1998, 1999; Varadarajan & Jayachandran, 1999). Varadarajan and Jayachandran (1999), in their seminal marketing strategy review, propose a way forward in terms of understanding and explaining firm behavior in the realm of deploying marketing resources for competitive advantage. Their review article frequently refers to intangible market based assets (capabilities) such as brand equity and customer equity. The subsequent decade of academic research (for example: Berthon et al., 2008; Li & Mitchell, 2009; Weerawardena, O'Cass, & Julian, 2006; Wong & Merrilees, 2008) has picked up the two main suggestions for moving forward, namely emphasizing firstly marketing capabilities in what is usually referred to as the resource-based theory of marketing strategy and secondly the link from marketing capabilities to performance. These insights guide the theoretical foundation for the current study, which links marketing support capabilities to marketing capabilities, and then to marketing performance.

Empirically, evaluation of the contribution of marketing capabilities to firm performance is surprisingly scant. Two early studies, Capron and Hulland (1999) and Grewal and Tansuhaj (2001) demonstrate the role of marketing capabilities in two very specific circumstances, namely horizontal acquisitions and managing an economic crisis. Other studies seeking a more general assessment of the contribution of marketing capability to performance divide into two approaches. One approach, especially the earlier studies, conceptualize marketing capabilities in terms of the *mid-level* marketing processes supporting strategy and include the marketing mix (4Ps) elements, market research and market management (Vorhies, 1998; Vorhies & Morgan, 2005). A limitation of this stream, recognized by one of the proponents (Vorhies & Morgan, 2005) is that it precludes any assessment of *higher-level* integrative capabilities, such as brand management, innovation and customer relationship management, which is the second approach. Vorhies and Morgan (2005) leave this opportunity to future researchers. However, in the same year, Hooley et al. (2005), building on preliminary work in Hooley et al. (1999) provide an assessment of several higher-level marketing capabilities, including brand reputation, customer relationship marketing and innovation.

A recent Journal of Marketing study (Krasnikov & Jayachandran, 2009) provides a meta-analysis to demonstrate the link between marketing capabilities and performance. Although reassuring, this state of the art finding is in the mould of the first approach where marketing capability is the sum of many *mid-level* marketing activities. There is limited research since Hooley et al. (2005) evaluating two or more higher-level marketing capabilities compared to studies of either a *single higher-level* marketing capability (Berthon et al., 2008; Li & Mitchell, 2009; Weerawardena et al., 2006; Wong &

Merrilees, 2008) or focusing on *mid-level* marketing capabilities (Krasnikov & Jayachandran, 2009; Vorhies and Morgan (2005).

3. Theoretical development: marketing capabilities and performance

As noted, initial studies conceptualize marketing capabilities as the sum of *mid-level* marketing activities, such as advertising and distribution (Vorhies, 1998; Vorhies & Harker, 2000; Vorhies & Morgan, 2005; Weerawardena, 2003). Although our emphasis is on *higher-level* marketing capabilities, such as innovation and branding, the aforementioned studies are used when relevant, such as the link from innovation to performance.

Discerning the B2B and SME literatures for salient higher-level marketing capability studies that examine the impact of marketing capability on performance suggests that two prevail, namely innovation and branding. In the interests of parsimony, the current paper confines itself to examining just two higher-level marketing capabilities, innovation and branding. We summarize the potential links as follows.

Innovation receives a dominant share of attention in performance studies. Innovation capabilities are seen as critical for competitive advantage and superior marketing performance (Han, Kim, & Srivastava, 1998; Hooley et al., 2005). Innovation seems to be a particularly powerful determinant of marketing performance. In the B2B context, innovation has a major positive influence on performance (Hult, Hurley, & Knight, 2004; Weerawardena, 2003; Weerawardena & O'Cass, 2004). In the SME context, similar studies have shown the importance of innovation on performance (Weerawardena et al., 2006). Another recent study of dynamic B2B industries in China finds that SME innovation is very favorable relative to large enterprise innovation (Li & Mitchell, 2009). Thus, in sum, we have hypothesis one:

H1. SME marketing performance is positively related to innovation capability.

Branding is a second major higher-level marketing capability that is a potential determinant of marketing performance. In the B2B field, Gordon, Calatone, and diBenedetto (1993), Mudambi, Doyle, and Wong (1997) and Kim, Reid, Plank, and Dahlstrom (1998) highlight the benefits of branding. The importance of branding in the B2B context is also emphasized in Mitchell, King, and Reast (2001), Webster and Keller (2004), Bendixen, Bukasa, and Abratt (2004), McQuiston (2004) and Van Riel de Mortanges and Streukens (2005).

SME branding is a relatively recent approach. Historically, branding was considered the domain of large firms and little research was undertaken in the SME area. Most of the research in this area is less than ten years old (Abimbola, 2001; Abimbola & Vallaster, 2007; Berthon et al., 2008; Doyle, 2003; Krake, 2005; Rode & Vallaster, 2005; Wong & Merrilees, 2005). One study indicates that branding is the major determinant of SME marketing performance (Wong & Merrilees, 2008). The direction and strength of this branding research leads us to our second hypothesis:

H2. SME marketing performance positively relates to branding capability.

4. Theoretical development: marketing support capabilities and marketing capabilities

The potential link of marketing capabilities to marketing performance is important, but it is also necessary to explain the mechanisms leading to the creation and management of marketing capabilities. It seems likely that a firm needs a certain mix of capabilities in order to create marketing capabilities, that is, capabilities create other capabilities. A neglected, but nonetheless very useful exposition of the

inter-dependencies between capabilities is Perry, Stott, and Smallwood (1993). They distinguish between firstly, *core capabilities* that directly lead to giving a firm a competitive advantage; secondly, *value added support capabilities* are those that facilitate the core capabilities; and thirdly, *essential capabilities* which neither create advantage nor facilitate the work that creates advantage but must be done for business to continue. In our context, marketing capabilities are core capabilities, with our attention shifting to identifying the capabilities that directly influence them.

Although a number of variables are potential candidates for inclusion as marketing support capabilities, we follow Hooley et al. (2005) and use two specifically, namely market orientation and management capability.

There is strong support in the literature for a nexus between market orientation and innovation (Han et al., 1998; Li & Calantone, 1998; Menguc & Auh, 2006). Han et al. (1998) spells out the basis for a link between market orientation and innovation. They argue that market orientation is essentially a business philosophy, a culture that requires operationalization by innovation, among other things, if it is to impact performance. Ideally, the innovation aligns to the market orientation culture and vice versa. A number of studies while not explicitly modeling the link between market orientation, nonetheless demonstrate high levels of association between the two constructs (Brooksbank, Kirby, & Wright, 1992; Brooksbank & Taylor, 2002; Brooksbank, Kirby, Tompson, & Taylor, 2003; Nasution & Mavondo, 2008) suggesting a probable link between greater research and market intelligence on one hand and greater innovation on the other. Although most studies point to a positive link between market orientation and innovation, there is some contrary evidence, including a weak link in Hooley et al. (2005). In the special case of biotech new ventures, product innovativeness is paramount (Renko, Carsrud, & Brannback, 2009). That study found no prior influence of market or entrepreneurial orientation, perhaps reflecting the radical and disruptive nature of new technology in the biotech industry. Based on most (but not all) of the literature, we posit the third hypothesis:

H3. Innovation capability positively relates to market orientation.

Hooley et al. (2005) proposes management capability as an antecedent of innovation capability. They argue that superior management capabilities, through integration and teamwork, will enhance innovation. Their empirical results strongly support this relationship. Innovation combines not just new idea creation but also systematic and structured management processes or steps (Tidd, Bessant, & Pavitt, 2001; Trott, 1998). Cooper (2001) “stage-gate” steps are a special case of the process of managing innovation. Cobbenhagen (2000), Motwani et al. (1999) and Pfirrmann (1995) give evidence of the importance of management capabilities in the context of SMEs. In total, the well-documented role of management processes for innovation suggests that management capabilities are likely to influence innovation success. Thus, we posit the fourth hypothesis:

H4. Innovation capability positively relates to management capability.

A number of authors have argued that stronger market orientation can contribute to brand building by basing the brands on consumer needs (de Chernatony & MacDonald, 1992; Doyle, 2000). On the other hand, there may be tension between the concepts of market orientation and brand orientation, because the former requires constant adaption to consumer needs while the latter is more firm-driven and not fickle to variations in consumer needs (Urde, 1999). Additionally, the Hooley et al. (2005) results are not supportive. Reid, Luxton, and Mavondo (2005) suggest a link between market orientation and brand orientation. On balance, the literature tentatively supports the fifth hypothesis:

H5. Branding capability positively relates to market orientation.

The final marketing support link to branding emanates from management capability. Hooley et al. (2005) propose management capability as an antecedent of branding marketing capability. They argue that superior management capabilities reach through all functions and not just direct customer interface functions, such as marketing and sales, to enhance innovation. Their empirical results strongly support this relationship. Perhaps in a similar way to innovation, brand building combines not just new idea creation but also systematic and structured management processes or steps (Berthon et al., 2008; de Chernatony, 2001; Wong & Merrilees, 2005). Panigyrakis and Veloutsou (1999) show that brand managers undertake various management tasks, including market analysis, planning, implementation and coordination of activities, evaluation of the marketing mix and training of colleagues in brand related issues. Collectively these five studies suggest that management capabilities are likely to influence branding success. Thus, we posit the sixth hypothesis:

H6. Branding capability positively relates to management capability.

5. Theoretical development: marketing performance and financial performance

Performance is the consequence of effective marketing capabilities. Marketing performance represents items like sales, growth and market share whereas financial performance more explicitly refers to profitability and rate of return on investment. Sometimes marketing performance and financial performance are combined as part of a single, one-dimension performance measure (Weerawardena, 2003). Alternatively, marketing and financial performance can be specified as two separate dimensions of a total performance measure (Vorhies & Morgan, 2005). As a third approach, the two types of performance can be specified as two separate constructs (Hooley et al., 2005).

For conceptual reasons, the current study adopts the last approach. It makes sense that the initial outcomes of applying marketing capabilities relate to direct customer effects, in terms of selling more units to existing customers, repeat purchasing or gaining new customers. That is, the initial link will be from marketing capabilities to marketing performance (H1 and H2). The initial link may or may not be profitable. Some companies may try to “buy” sales through discounts or excessive advertising, resulting in the potential of profitless growth. Thus, it is appropriate to model financial performance as a separate sequence from marketing performance (Buzzell & Gale, 1987; Homburg & Pflesser, 2003; Hooley et al., 2005; Reicheld & Sasser, 1990; Wong & Merrilees, 2007). Although the marketing performance to financial performance link is likely to be strong, it will not be perfectly correlated. Thus, we have the seventh hypothesis:

H7. SME financial performance positively relates to marketing performance.

6. An overall structural model linking antecedents and consequences of marketing capabilities

The above conceptual relationships specify both consequences (H1 and H2) and antecedents (H3, H4, H5 and H6) of two marketing capabilities. The four marketing support capabilities are exogenous in the model. Additionally, H7 indicates a subsequent consequence from marketing performance to financial performance.

For parsimony reasons, just two marketing capabilities (innovation and branding) are modeled here. Hooley et al. (2005) estimates a more complex model, but their results indicate a number of problems, including two incorrectly signed paths. We argue that it is better to start with a simpler model and get the fundamental relationships correct.

The seven paths associated with the seven hypotheses can be embedded into a formal structural model, given by Fig. 1. This model

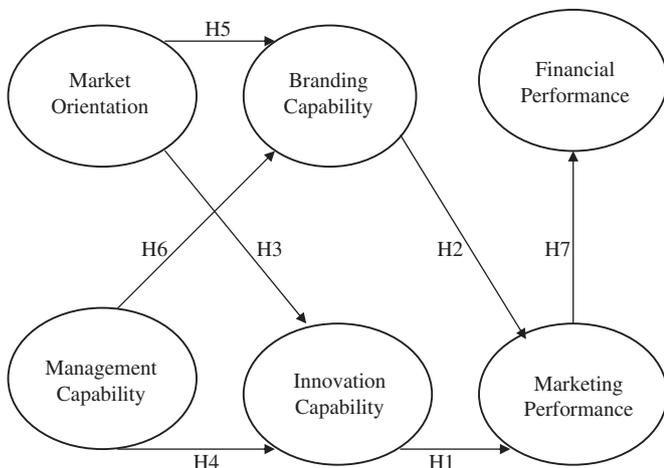


Fig. 1. Structural model.

will be tested with the full sample of 367 B2B SMEs using SEM analysis (AMOS).

A feature of the overall structural model is that the effects of market orientation and management capability on marketing performance are mediated through branding capability and innovation capability. The theoretical justification for this is discussed above in terms of the rationale for H1 and H2. Other studies, such as Han et al. (1998), with innovation mediating the market orientation to performance relationship, have taken a similar position. After the model is formally established, it is appropriate that we test for mediation tests, using the Baron and Kenny (1986) statistical approach.

7. Methodology

A quantitative (structured survey) research method was deemed appropriate to enable actual measures to be calculated. A commercial database (Dun and Bradstreet Australia, Business Who's Who of Australia) is used for the sample frame, with the researchers specifying industry types from the Standard Industrial Classification 87 and firm size (less than 500 employees). A mail-based survey was the basis for randomly distributing the surveys.

The survey instrument asked respondents to indicate their perceptions with regard to the items pertaining to brand capability, innovation capability, management capability, firm characteristics, market orientation, marketing performance and financial performance. Items were measured through a seven-point scale, with scale poles ranging from "strongly disagree" to "strongly agree". Most of the scales are drawn from or adapted from Hooley et al. (2005).

A total of 374 usable responses were obtained from owners or managers in a variety of Australian firms, representing a response rate of 13%. Although a size limit of 500 was stipulated, seven firms exceeded the limit (perhaps they had grown since being included in the database) and were not included in the analysis. Thus, the final sample is 367 firms in the SME category. About half of the respondents (median) had sales turnover greater than \$8 million and the median number of employees in the firm was 36, suggesting that both small and medium-sized firms were both well represented in the sample. More specifically the final sample includes 108 micro sized firms (less than 20 staff), 173 small-sized firms (20–99 staff) and 86 medium-sized firms (100–499 staff).

Table 1 summarizes the descriptive statistics. Each Australian state is represented more or less in proportion to population, with 132 of the 367 responses from the most populous state, New South Wales, and so forth for the remaining states. There is a good industry spread (manufacturing, construction, services, etc.) and a good spread across market type (fast-moving goods, consumer durables, capital indus-

Table 1
Descriptive statistics of respondents.

Firm size	
Micro firms (less than 20 employees)	108
Small firms (20–99 employees)	173
Medium-sized firms (100–499 employees)	86
Industry	
Services	159
Manufacturing	133
Wholesaling	39
Construction	21
IT/software	13
Agriculture	12
State	
New South Wales	132
Victoria	103
Queensland	63
Western Australia	33
South Australia	21
Australian Capital Territory & Northern Territory	10
Tasmania	5
Type of market	
Services	159
Fast moving consumer goods	71
Consumer durable goods	59
Repeat industrial goods	55
Capital industry equipment	23
Title of respondent	
Marketing manager	134
Owner	98
Manager	81
Chief executive officer	43
Finance manager	11

trial goods, repeat industrial goods and services). The distribution of firms classified by market status includes 27% market leaders, 16% market challengers, 20% market followers and 37% niche firms. The survey was mailed to the "Business owner/Manager". Marketing managers and owners are the most common titles.

8. Results

8.1. Non-response bias

The Armstrong and Overton (1977) test for non-response bias is conducted. The test is based on splitting the sample by time of response, early and late. ANOVA tests are used for each item between the early and late respondents. The argument is that the late respondents have similar traits to those who do not respond at all. The ANOVA tests suggest that non-response bias is not likely to be a major problem. Additional checks indicate that the responses by State were more or less in proportion to the population of each State, consistent with no major non-response bias. Similarly, there was a good spread of firms across a range of demographic variables.

8.2. Factor adequacy

Before conducting the analysis, tests of sampling adequacy are first conducted. The Kaiser–Meyer–Olkin (KMO) statistic is 0.92, appropriately greater than the recommended cut off of 0.60. Additionally the Bartlett test of sphericity was significant, at the 1% level.

8.3. Reliability of scales

All the scales were reliable, with the composite reliabilities ranging from 0.77 to 0.91, all greater than the benchmark of 0.70. Table 2 shows the reliability level for each scale and factor loadings for each item in a scale.

Table 2
Factor loadings and composite reliability (CR).

Factor items and composite reliability (CR)	Factor loading
Marketing performance (CR=0.83)	
Stronger growth in sales revenue	0.88
Better able to acquire new customers	0.83
Has a greater market share	0.80
Able to increase sales to existing customers	0.71
Source: Hooley et al. (2005)	
Financial performance (CR=0.91)	
Is more profitable	0.92
Has a better return on investment	0.92
Is better able to reach financial goals	0.89
Source: Hooley et al. (2005)	
Management capabilities (CR=0.81)	
Has better operational management expertise	0.87
Has better overall management capabilities	0.85
Is more able to execute marketing strategies quickly	0.75
Manages its supply chain better	0.75
Source: Hooley et al. (2005)	
Market orientation (CR=0.80)	
More likely to plan ahead to satisfy customers in the future	0.83
Responds more quickly to changing customer requirements	0.81
Places a priority on making changes to improve customer satisfaction	0.75
More likely to involve employees in planning and decision making	0.71
Has better market intelligence	0.65
Is more likely to target customers where we have a competitive advantage	0.62
Undertakes market research to measure satisfaction	0.60
Source: Farrelly and Quester (2003)	
Branding capability (CR=0.86)	
Better able to identify a simple brand meaning	0.90
Uses branding as an operational tool	0.88
Better able to communicate a consistent brand meaning	0.86
Is more likely to treat its brands as assets	0.85
Able to get staff to support the brand	0.81
Source: Wong and Merrilees (2008)	
Innovation capability (CR=0.77)	
Better at developing new ideas to help customers	0.84
More able to fast track new offerings to customers	0.80
Better able to manage processes to keep costs down	0.73
More able to package a total solution to solve customer problems	0.72
Source: Hooley et al. (2005)	

8.4. Common method bias

Common method bias occurs when the measurement technique introduces systematic variance into the measures (Doty & Glick, 1998). The study uses the suggestion of Podsakoff, Mackenzie, and Lee (2003) to vary the formatting (through clearly delineated sections) as a way of preventing or minimizing common method bias. Further, the Harmon single factor post-hoc test suggests that no same-source factor exists (Podsakoff & Organ, 1986). Using the unrotated factor solution of including all of the items together, five factors had an Eigen Value greater than one, not one factor as per the Harmon test. Further, although there is always a strongest factor, it is not overly dominant in the current study, explaining 38% of the variance out of a total 64% extracted.

Another test consistent with no common method bias is the discriminant analysis test (see Table 3); the current study fulfills this requirement.

The authors propose an additional test based on our inferences from Table 2 in the study by Agustin and Singh (2005). The study by Agustin and Singh (2005) shows that common method biases decreases as additional significant explanatory variables are added to the equation, although they themselves do not detect or highlight this pattern. We therefore propose the following additional test for common method bias, namely that studies with equations having two or more significant explanatory variables are unlikely to suffer from major common method bias. The current study fulfills this requirement.

Table 3
Discriminant validity matrix.

Construct	1	2	3	4	5	6
1. Marketing performance	0.81					
2. Financial performance	0.57	0.91				
3. Market orientation	0.48	0.35	0.82			
4. Brand capability	0.52	0.31	0.57	0.86		
5. Innovation capability	0.45	0.29	0.71	0.49	0.77	
6. Management capability	0.50	0.44	0.63	0.59	0.61	0.81

Note: The figures corresponding to square root of AVE for each column construct is captured in bold along the diagonal. Other figures are the correlation between two constructs.

8.5. Discriminant validity

Discriminant validity of the constructs is tested using the Fornell and Larcker (1981) test, namely that the square root of the average variance extracted for a given construct is greater than the standardized correlation of the given construct with each of the other constructs. Table 3 presents the relevant table, with the square root of the average variance extracted represented by the diagonal. In all cases, as can be seen by the information in Table 3, the Fornell and Larcker (1981) test is met for all pairs of constructs. That is, there is discriminant validity; the constructs are distinctly different from each other.

8.6. Convergent validity

Convergent validity refers to a level of coherency across the items within each construct. In the first instance, convergence requires that the average variance extracted for each construct is greater than 0.50 (Fornell & Larcker, 1981), which is met in the current study (see Table 3). Secondly, all the factor loadings are statistically significant and load on to their particular construct. This condition is also met. Overall, there is support for convergent validity.

8.7. Construct validity (measurement model)

Six constructs comprise the final model and include marketing performance, financial performance, innovation capability, management capability, branding capability and market orientation. Using confirmatory factor analysis, the measurement model works satisfactorily. The fit indices are greater than the 0.90 benchmark, with GFI=0.96, AGFI=0.92, TLI=0.97 and CFI=0.98. These indices indicate that the data fits the model. Similarly, the levels of misfit were tolerable, with RMSEA=0.064 and RMR=0.035, all below the relevant benchmark of 0.08. The chi-square is 98.0 (39 degrees of freedom), statistically significant, which is not desirable but common in samples with more than 300. Additional tests including a normed chi-square of 2.51 (less than the benchmark of 5) and SRMR=0.027 (less than the benchmark of 0.08), all supporting construct validity.

8.8. Structural model estimation

The fit indices are greater than the 0.90 benchmark, with GFI=0.95, AGFI=0.91, TLI=0.96 and CFI=0.97. These indices indicate that the data fits the model. Similarly, the levels of misfit were tolerable, with RMSEA=0.071 and RMR=0.048, all below the relevant benchmark of 0.08. The chi-square is 130.5 (with 46 degrees of freedom) and statistically significant, not desirable but common in samples more than 300. Additional tests including a normed chi-square of 2.84 (less than the benchmark of 5) and SRMR=0.037 (less than the benchmark of 0.08), indicating a good fit between the data and the model.

The explanatory power (R-square) of the four equations in the structural model are very satisfactory: 0.47 for explaining financial

Table 4
Path estimates for structural model.

Hypothesized link	β	t-value	Sig.	Supported?
H1. Innovation Capability → Mkt Perform.	0.48	6.63	0.000	Supported
H2. Branding Capability → Mkt Perform	0.17	2.65	0.008	Supported
H3. Mkt Orientation → Innovation Capability	0.51	6.97	0.000	Supported
H4. Manag. Capability → Innovation Capability	0.49	6.80	0.000	Supported
H5. Mkt Orientation → Branding Capability	0.31	4.21	0.000	Supported
H6. Manag. Capability → Branding Capability	0.40	5.32	0.000	Supported
H7. Mkt Perform. → Financial Perform	0.69	13.97	0.000	Supported

Note: ' β ' values refer to standardized path coefficients.
All hypotheses are supported at the 1% level.

performance; 0.36 for explaining marketing performance; 0.44 for explaining brand capability; and 0.87 for explaining innovation capability.

Table 4 gives the SEM structural model parameter estimates. All of the parameters are statistically significant at the one percent level and all seven hypotheses are supported. Marketing performance is mainly explained by innovation capability, but with a strong contribution from brand capability. Both of the marketing support capabilities (market orientation and management capability) strongly explain each marketing capability, namely innovation capability and branding capability.

8.9. Mediation tests

Although the phases in the structural model are theoretically derived, mediation tests were run to confirm the sequence of effects. Specifically, the two marketing capability variables (innovation capability and brand capability) mediate the influence of the two marketing support variables (market orientation and management capability).

The three-equation test of Baron and Kenny (1986) is used, with the results shown in Table 5. Step 1 of the approach requires that the independent variables (market orientation and management capability) statistically affect the mediating variables (brand orientation and innovation capability). This condition is met, as shown in Table 5. Step 2 of the approach requires that the independent variables directly and statistically affect marketing performance, the dependent variable. This condition is met as shown in Table 5. Step 3 allows both the mediators and independent variables to influence the dependent variable and with an emphasis on the mediator variables (brand capability and innovation capability) statistically influencing the dependent variable. This condition is met as shown in Table 5. Step 4 compares the second and third set of regressions. The requirement is that the influence of the independent variables declines substantially. This condition is met because there is a halving of the beta coefficients

Table 5
Mediation tests using Baron and Kenny (1986) three-equation approach. NB: All the beta coefficients are significant at the 5% level except that of market orientation in step 3.

Step	Multiple regression result
Step 1	Brand Capability = 0.32 Market Orientation + 0.38 Management Capability Innovation Capability = 0.44 Market Orientation + 0.32 Management Capability
Step 2	Marketing Performance = 0.26 Market Orientation + 0.34 Management Capability
Step 3	Marketing Performance = 0.11 Market Orientation + 0.18 Management Capability + 0.28 Brand Capability + 0.14 Innovation Capability

for both the independent variables; the market orientation beta drops from 0.26 to 0.11 and the management capability beta drops from 0.34 to 0.18. All four conditions are met, indicating that brand capability and innovation capability mediate the influence of market orientation and management capability.

8.10. Disaggregation tests using multiple regression analysis

Having confirmed the aggregate model in terms of both measurement validity and estimation, further analysis uses multiple regression analysis (because of sub-sample size limitations) disaggregated by firm size: the three size groups of micro (under 20 staff), small (20–99 staff) and medium-sized firms (100–499 staff).

Multiple regression analysis is applied to each sub-component of the structural model, one equation at a time. All of the regressions have reasonably high coefficient of determination (R-square). Further, there is no evidence of multicollinearity problems, with all VIFs less than three (appropriately less than the benchmark of 10).

In terms of explaining marketing performance in terms of innovation capability and brand capability, there is a high level of consistency across the three firm sizes. The sub-model of marketing performance estimated at the aggregate level is mirrored in each firm size multiple regression. There is no firm size effect, indicating a robust explanation for this important outcome variable. The same pattern of results applies in terms of explaining financial performance. Firm size clearly does not moderate this explanatory sub-model.

Table 6A seems to reveal a different story when the determinants of innovation marketing capability are examined. As can be seen, there seems to be a moderating influence of firm size in this sub-model. In particular, market orientation plays the greatest role in micro-sized firms and becomes less influential as firm size increases.

Table 6A is relevant for testing the hypothesis noted earlier that firm size is a moderator rather than an antecedent to the innovation process (Harmancioglu et al., 2009). Thus, we hypothesize:

H8. The multiple regression model of innovation capability varies across firm size categories.

Although the apparent sizes of the beta coefficients in Table 6A seem to indicate different regression parameter estimates, especially between the micro and the medium-sized firms, a formal Chow test indicates that there is not a statistically different regression model across the size categories. Formally, the Chow test calculates an F-score of 1.8, less than the critical F-score of 2.60 at the 0.05 level, statistically insignificant (Studenmund, 2001). That is, the two most diverse size samples do not have different regression model parameters.

All of the remaining Chow tests are also statistically insignificant. There are no cases where size of firm, using the three size categories, moderates the multiple regression results. Expressed differently, the aggregate multiple regression results (and by inference the aggregate SEM results) apply broadly and similarly to the three firm size categories, with minor, insignificant differences.

Disaggregation is also applied with the data split into five industry groupings: manufacturing, wholesale, services, agriculture and construction. The differences in the sub-models had just minor differences. A third disaggregation split the sample into five different types of markets: fast-moving consumer goods, capital industry equipment, consumer durables, services and repeat industrial goods. There is a slight tendency for the fast-moving consumer goods firms to make greater use of market orientation, but otherwise the differences across the five types were minor.

Table 6
Disaggregation tests using multiple regression analysis.

Independent variables	Micro firms	Small firms	Medium
	(n = 108)	(n = 173)	(n = 86)
<i>A. Multiple regression analysis of determinants of innovation capability by firm size</i> (Beta coefficient, with t-value in parentheses below)			
Market orientation	0.69 (8.47)***	0.47 (7.78)***	0.37 (3.18)***
Management capability	0.14 (1.79)*	0.39 (6.34)***	0.38 (3.26)***
Adjusted R-Square (F-value)	0.62 (87.6)***	0.58 (117.7)***	0.46 (37.2)***
<i>B. Multiple regression analysis of determinants of branding capability by firm size</i> (Beta coefficient, with t-value in parentheses below)			
Market orientation	0.34 (3.31)***	0.35 (4.90)***	0.17 (1.43)
Management capability	0.36 (3.53)***	0.37 (5.09)***	0.52 (4.36)***
Adjusted R-Square (F-value)	0.40 (36.0)***	0.40 (58.7)***	0.42 (31.4)***

*Significant at 0.10 level; ***Significant at 0.01 level.

9. Discussion

A major area of contribution to the literature is the evaluation of alternative SME B2B capabilities as determinants of marketing performance. A multi-path model is proposed and tested as a structural equation model. The overall model works well in terms of explanatory power of key variables and provides broad support for the resource-based view of the firm framework. Two key marketing capabilities, branding and innovation, are the central players in explaining marketing performance. Both marketing capabilities seem to be core to the way marketing works, but no previous study has confirmed their concurrent contribution in the SME B2B context. Even in the broader literature, regardless of sector or firm size, few previous studies have concurrently supported both **H1** and **H2**. For comparison, **Hooley et al. (2005)** supports **H1** but not **H2**.

Two marketing support capabilities, management capabilities and market orientation, support the two key marketing capabilities. This finding is broadly consistent with **Hooley et al. (2005)**, except they do not support **H5**. Market orientation has a strong influence on innovation marketing capability and, as expected, a weaker influence on branding marketing capability. For effective marketing capabilities, SMEs need to tap into the creative, market-sensing processes associated with market orientation, but also closely control the more disciplined, structured management processes.

The results have similarities with **Nasution and Mavondo (2008)**, who highlight the importance of innovation and human resources in explaining customer value (not the same, but akin to performance). In the current study innovation remains, but branding capability replaces human resources.

The study also contributes to the literature by delineating the role of *firm size* in strategic decisions. Disaggregation of the sub-models by firm size reveals only minor differences, none of which is statistically significant. Broadly, the aggregate SEM results are likely to apply to each of the three size groups deployed in the current study: micro firms (under 20 staff), small firms (20–99 staff) and medium-sized firms (100–499 staff).

Table 6A provides interesting results across firm sizes, despite the differences not being statistically significant. Notionally at least, the results suggest that smaller firms (especially micro firms) build their innovation capability through market sensing (market orientation). Smaller firms seem to be in closer touch with their customers, compared to larger firms, and incorporate this customer feedback into innovation development. In contrast and understandably, larger firms have greater reliance on structured management processes to build innovation capability.

10. Managerial implications

Establishing strategic objectives is critical to marketing performance. It is important to set priorities because of resource constraints. In the sample studied, the most popular strategies were based on branding and innovation. In planning the future, firms need to specify which strategic area is to be given the highest priority and more precise goals or targets set.

The study highlights the *importance* to SME B2B firms in developing two key marketing capabilities: branding and innovation. The study guides the SMEs in *how* they can develop these marketing capabilities, essentially through the marketing support capabilities of market orientation and management capabilities.

11. Limitations and future research

The sample is reasonably diverse in terms of many demographics, firm location, firm size, industry type and market type. Disaggregation tests generally show a robust result in terms of model parameters. However, for some disaggregation tests, sizes of sub-samples are necessarily small. Larger sub-samples, including studies dedicated to just one sub-sample (say manufacturing or information technology) might give a different set of results. Additionally, the results are restricted to one country, Australia. Some variables, such as market orientation, may play a different role in other countries.

Future research should initially target different countries. Such research could then test the generalizability of the results. The current study suggests innovation and branding are dominant marketing capabilities—would the same results appear in most other countries? Deliberately, the current study is restricted to micro, small and medium-sized B2B firms. Future research could investigate whether *large* B2B firms use similar marketing strategy behavior.

12. Conclusions

In the first instance, the study provides insight into how micro, small and medium-sized firms in the B2B sector undertake marketing strategies. The study uses a resource-based view of the firm framework, which provides robust structural equation modeling results. In a pioneering contribution for the SME B2B sector, the study highlights the major contribution of two key marketing capabilities to explaining marketing performance. The two key marketing capabilities are branding and innovation. No previous single SME B2B study has indicated the concurrent, combined importance of these two marketing capabilities.

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Bill Merrilees is a Professor in Marketing in the Griffith Business School. He has published in IMM, JBR, EJM and JAR. He specializes in branding, strategy and SMEs.

Sharyn Rundle-Thiele is an Associate Professor in Marketing in the Griffith Business School. She specializes in social marketing, loyalty, branding, marketing management and services.

Ashley Lye is a Canadian-based entrepreneur and an adjunct associate professor in marketing in the Griffith Business School. His special interest is marketing strategy and marketing management.