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Effects of industry forces, market orientation, and marketing capabilities on business performance: An empirical analysis of Japanese manufacturers from 2009 to 2011[☆]

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ABSTRACT

This study examines the stability and relative importance of the effects of industry forces, market orientation, and marketing capabilities on business performance through partial least squares structural equation modeling (PLS-SEM) analysis of survey data ($n = 568$) from Japanese manufacturers over the course of three years (2009–2011). The findings indicate that the direct effect of marketing capabilities on performance is stable over the three years investigated. The results also suggest that marketing capabilities are the most important driver of performance, followed by industry forces, specifically, competitive rivalry and power of suppliers, and market orientation. Furthermore, market orientation has an indirect effect on performance through marketing capabilities. Marketing capabilities have a stronger effect on performance in cases of high competitive rivalry compared with those of low competitive rivalry. Within the different marketing capabilities, new product development and pricing are the primary factors. Channel management is more important in cases of high competitive rivalry.

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1. Introduction

Understanding the determinants of business performance is a key interest of business researchers and practitioners. Most researchers in the fields of industrial organization, strategic management, and marketing examine the sources of performance differences among firms or business units. Previous studies suggest that external and internal factors influence firms' performance differences. For example, external factors include industry structure (e.g., Porter, 1980) and country characteristics (e.g., Makino, Isobe, & Chan, 2004). Internal factors include firm resources (e.g., Barney, 1986, 1991), market orientation (e.g., Kohli & Jaworski, 1990; Narver & Slater, 1990), marketing capabilities (e.g., Morgan, Vorhies, & Mason, 2009), and dynamic capabilities (e.g., Teece, 2007; Teece, Pisano, & Shuen, 1997).

Previous empirical studies examine the question of principal sources of performance using secondary or primary survey data. Studies relying on secondary data (e.g., Fukui & Ushijima, 2011; Makino et al., 2004; Mauri & Michaels, 1998; McGahan & Porter, 1997, 2002; Roquebert, Phillips, & Westfall, 1996; Rumelt, 1991) decompose the variance in performance into components associated with external and internal factors. The findings indicate that internal factors (e.g., corporate and business effects) are more important than external factors (e.g., industry effects) in explaining the variance in performance. At

the same time, because these studies rely on secondary data, detailed information on internal factors, let alone external factors, are not available (Galbreath & Galvin, 2008).

Other studies using primary survey data more specifically capture the sources of performance. For example, Spanos and Lioukas (2001) explore the impacts of Porter's (1980) five forces of industry structure (competitive rivalry, barriers to entry, threat of substitutes, power of buyers, and power of suppliers) and firm assets on market performance and profitability. Morgan et al. (2009) examine the impacts of market orientation and marketing capabilities on subjective and objective performance measures. These studies attempt to provide information as to which specific industry forces or firm resources and capabilities are the primary determinants of performance. However, the results of empirical studies using survey data are often mixed. Moreover, because most studies only use data from a single year, the degree to which these impacts are attributable to stable effects is unclear.

This study focuses on the five forces of industry structure as external factors and treats market orientation and marketing capabilities as internal factors with regard to business performance. As Porter (1980) suggests, although external factors cover a broad range, including for example social and economic factors, the key aspect of the firm's environment is the industry structure in which the firm competes. The industry structure view, together with the resource-based view (RBV) of the firm, is one of two prominent views regarding the sources of firms' performance differences (Dyer & Singh, 1998; Galbreath & Galvin, 2008; Makino et al., 2004; McGahan & Porter, 1997). Market orientation (market knowledge generation, dissemination, and responsiveness) and marketing capabilities (new product development,

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pricing, channel management, and marketing communications) are the key distinct aspects of the firm's resources and capabilities in its marketing strategy (Kotler, 1999). These activities are important components of core dynamic marketing capabilities. The primary role of dynamic marketing capabilities in renewal of firm resources often characterizes market orientation (e.g., generation of new market knowledge) and marketing capabilities (e.g., promotion of new product development) as core components (Barrales-Molina, Martinez-Lopez, & Gazquez-Abad, 2014). Additionally, Morgan et al. (2009) view market orientation as a key market-based asset, and marketing capabilities as a key market-related deployment mechanism. As they suggest, these fundamental and complementary elements decide how successfully firms acquire and deploy resources in ways that reflect their market environment.

This study empirically examines the effects of industry forces, market orientation, and marketing capabilities on business performance using three years (2009–2011) of survey data ($n = 568$) from Japanese manufacturers and partial least squares structural equation modeling (PLS-SEM) method. In so doing, the study addresses the following research question: which specific factors have a stable effect on performance over the three years investigated? The findings present a noticeable pattern regarding the stability and relative importance of the aforementioned factors on performance. Also, this study provides important insight into the different roles of these factors in influencing performance.

The data in the present study are unique in two respects. First, the study uses three years of survey data, as opposed to the one-year period employed in similar studies. Second, the study obtains data from Japanese manufacturers. Comparable empirical studies (e.g., Galbreath & Galvin, 2008; Kamasak, 2011; Morgan et al., 2009; Ngo & O'Casey, 2012a, 2012b; Spanos & Lioukas, 2001) use only one year of survey data from American, European, or Australian firms.

The paper has the following structure. Section 2 reviews the theoretical background and empirical studies of the drivers of performance and presents the hypotheses. Section 3 describes the sample and measures used in the analyses. Section 4 presents the empirical results. The paper concludes with a discussion of the findings and limitations.

2. Theoretical background, empirical studies, and hypotheses

2.1. Industry forces

Rooted in the structure-conduct-performance (SCP) paradigm of traditional industrial organization economics, Porter (1980) argues that industry forces influence performance. Industry forces include rivalry among existing firms, threat of new entrants, threat of substitute products or services, bargaining power of buyers, and bargaining power of suppliers. These five forces drive the intensity of industry competition and performance because they influence the prices, costs, and required investment of firms in an industry (Porter, 1980, 1985).

According to this framework, each of the five forces generally has a negative effect on business performance. This is because more intense competition and/or the lower bargaining power of firms in an industry lead to the decrease in the size of the benefit pie a firm gains in the industry. More specifically, when a few large firms do not dominate the industry and numerous firms compete against one another, or when product differentiation is difficult and the industry sees price competition, rivalry among existing firms escalates. Extended rivalry with new entrants or substitutes becomes intense when the industry is attractive and the barriers to entry are low, or when the price-performance alternatives of substitutes are attractive. In such highly competitive industries, the benefit share a firm receives shrinks in contrast to less competitive industries. Also, higher bargaining power of buyers allows them to drive prices down or demand costly services. Higher bargaining power of suppliers allows them to raise prices or reduce the quality of the purchased products. Their actions can reduce the benefit a firm realizes in the industry (Porter, 1980, 1985).

However, previous studies suggest that the effects of the five forces on business performance are contingent on various contextual factors. Porter (1980, 1985) suggests that the strength of the five forces varies according to contextual factors such as the country or the industrial characteristics, and can change as the context evolves. That is, in any particular context, not all of the five forces are equally important, and the most important force or forces differ over time.

Reflecting on this supposition, the results of empirical studies using primary survey data also vary with regard to the relationships between the five forces of industry structure and performance. For example, using a sample of 147 Greek manufacturers in various industries and path analysis, Spanos and Lioukas (2001) suggest that only the competitive rivalry and power of suppliers of the five forces of industry structure are significant with regard to market performance and profitability, respectively. Specifically, the direct effect of competitive rivalry on market performance is negative and marginally significant (-0.15 , $p < 0.10$), whereas the direct effect of power of suppliers on profitability is negative and significant (-0.32 , $p < 0.01$).

Using a sample of 148 manufacturing and 137 service firms in various industries in Australia and hierarchical regression analysis, Galbreath and Galvin (2008) show that only some of the five forces of industry structure are significant for performance. More specifically, in manufacturing firms, the effect of threat of substitutes is negative and significant (-0.26 , $p < 0.01$) and that of the power of buyers is negative and marginally significant (-0.14 , $p < 0.10$). In service firms, the effects of ease of entry and power of buyers are negative and marginally significant (-0.17 , $p < 0.10$ and -0.19 , $p < 0.10$, respectively).

These theoretical arguments and empirical results suggest that the direct negative effects of the five forces of industry structure on performance may exist, but that they vary according to the context and time of analysis. Thus, this study predicts the following:

Hypothesis 1. The five forces of industry structure will be negatively related to business performance. However, the results will vary.

2.2. Market orientation

The market orientation literature (e.g., Jaworski & Kohli, 1993; Kirca, Jayachandran, & Bearden, 2005; Kohli & Jaworski, 1990; Narver & Slater, 1990) argues that a firm's market orientation influences its performance. Market orientation is the organization-wide generation, dissemination, and responsiveness to market knowledge, particularly pertaining to current and future customer needs (Kohli & Jaworski, 1990) and relates to customer orientation, competitor orientation, and inter-functional coordination (Narver & Slater, 1990). As mentioned in Section 1, market orientation is one of the core dynamic marketing capabilities (Barrales-Molina et al., 2014) and a key market-based asset (Morgan et al., 2009).

Drawing on the RBV (e.g., Barney, 1986, 1991; Peteraf, 1993) and the dynamic capabilities framework (DCF) (e.g., Teece, 2007; Teece et al., 1997), the literature postulates that a firm with a superior market orientation achieves superior business performance because the firm can understand current and future customers and the factors (e.g., competition and regulation) affecting them. This superior performance owes itself to market research and coordinated efforts among functions that enable the creation and maintenance of superior customer value. Further, the firm's managers can select and combine resources to match changing market conditions (Kohli & Jaworski, 1990; Slater & Narver, 1995). Thus, the literature indicates that a firm's market orientation positively influences its business performance.

Although a meta-analysis by Kirca et al. (2005) shows a positive relationship between market orientation and performance, the results of empirical studies using primary survey data vary. For example, studying 230 U.S. manufacturing and service firms in various industries and using covariance-based structural equation modeling (CB-SEM) and

hierarchical regression analysis, [Morgan et al. \(2009\)](#) suggest that market orientation is not significantly associated with subjective business performance. For the 108 firms from which they are able to collect secondary financial information, specifically, return on assets (ROA) data, they also show that market orientation directly influences objective performance.

Using a sample of 976 manufacturing and service firms (249 from Austria, 327 from Finland, and 400 from Germany) and CB-SEM, [Jaakkola, Möller, Parvinen, Evanschitzky, and Mühlbacher \(2010\)](#) find a surprisingly weak relationship between market orientation and subjective business performance.

Using data from 217 firms and hierarchical regression analysis, [Hult, Ketchen, and Slater \(2005\)](#) find that market information processing does not directly influence objective performance, but seems to indirectly influence performance through organizational responsiveness. In their study, market information processing encompasses the generation, dissemination, and shared interpretation of knowledge of customer needs (cf. [Jaworski & Kohli, 1993](#); [Sinkula, 1994](#)).

Using a sample of 163 manufacturing and service firms in Australia and PLS-SEM, [Ngo and O'Cass \(2012a\)](#) find that market orientation contributes significantly to innovation- and customer-related performance outcomes.

Thus, some results suggest a positive or a weak relationship between market orientation and performance, but others do not show any significant relationship. Market orientation may not be a strong strategic factor in improving performance independently in any context. [Hult et al. \(2005\)](#) and [Morgan et al. \(2009\)](#) argue that market orientation can become a strong factor in combination with other important performance antecedents. As market orientation may not be the strongest factor, its direct effect on performance may differ according to contextual factors. [Jaakkola et al. \(2010\)](#) show that the effects of market orientation on performance are different in three relatively homogenous European countries (Austria, Finland, and Germany). These results suggest the context-specificity of the market orientation–performance relationship.

These theoretical arguments and empirical results suggest that a direct positive effect of market orientation on performance may exist, but varies according to the context and time of analysis. Thus, this study predicts the following:

Hypothesis 2. Market orientation will be positively related to business performance. However, the results will vary.

2.3. Marketing capabilities

The marketing strategy literature (e.g., [Morgan, 2012](#); [Morgan et al., 2009](#)) argues that a firm's specialized marketing capabilities are important contributors to performance. Effective new product development, pricing, channel management, and marketing communications make up the marketing mix activities which define strong specialized marketing capabilities ([Kotler, 1999](#); [Morgan et al., 2009](#); [Vorhies, Morgan, & Autry, 2009](#)). As mentioned in [Section 1](#), these activities are some of the core features of dynamic marketing capabilities ([Barrales-Molina et al., 2014](#)) and a key market-related deployment mechanism ([Morgan et al., 2009](#)).

Drawing on the RBV and the DCF, the literature assumes that a firm with superior marketing capabilities achieves superior business performance, because the firm can provide its target customers with greater concrete value, such as new higher quality products, an appropriate sales price, better customer services, and additional beneficial information through better marketing mix decisions. These capabilities may be valuable, rare, imperfectly imitable, and non-substitutable sources of competitive advantage that can enhance performance. Also, the firm's managers and employees can renew and reconfigure resources through continuously introducing new marketing mix activities, especially through developing new products ([Morgan, 2012](#); [Morgan et al.,](#)

[2009](#)). Further, as the fitness of marketing mix activities is important, the confluence of these activities would have a strong influence on performance. Thus, the general hypothesis is that a firm's marketing capabilities positively influence its business performance.

The results of empirical studies using primary survey data are largely consistent with regard to the relationship between marketing capabilities and performance. For example, [Morgan et al. \(2009\)](#) suggest that marketing capabilities have direct positive effects on subjective and objective performance measures.

[Jaakkola et al. \(2010\)](#) show relatively strong positive relationships between inside-out marketing capabilities and subjective business performance in the full sample and each sub-sample of three countries. In their study, inside-out marketing capabilities include strong financial management, effective human resources management, good operations management, and good marketing management (cf. [Day, 1994](#)).

Using data from 247 firms and PLS-SEM, [O'Cass and Weerawardena \(2010\)](#) suggest that marketing capabilities lead to higher brand performance. [Ngo and O'Cass \(2012a\)](#) show that marketing capabilities contribute significantly to innovation- and customer-related performance outcomes. [Ngo and O'Cass \(2012b\)](#) indicate that marketing capabilities are significant drivers of firm performance.

[Krasnikov and Jayachandran's \(2008\)](#) meta-analysis of firm capabilities–performance relationships demonstrates that marketing capabilities have a stronger effect on performance than research-and-development and operations capabilities over a diverse set of research contexts. These results suggest the generality of the marketing capabilities–performance relationship.

These theoretical arguments and empirical results suggest that a direct positive effect of marketing capabilities on performance exists and is stable in various contexts and time periods. Thus, this study hypothesizes the following:

Hypothesis 3. Marketing capabilities will be positively related to business performance and the results will be stable.

Lack of relevant survey data for more than one year currently hinders evaluation of the stability of these results over a multi-year period. This study examines the effects of industry forces, market orientation, and marketing capabilities on business performance simultaneously and identifies the stability and relative importance of the effects by analyzing survey data over three years (2009–2011). The characteristic focus of this study is to test the aforementioned hypotheses by using three years of survey data, which previous studies seldom undertake.

3. Methods

3.1. Sample

This study collects primary data through a mail survey of Japanese manufacturers operating in consumer and industrial markets to test the effects of industry forces, market orientation, and marketing capabilities on business performance. This study focuses on manufacturers to consider product-related business contexts and marketing factors and to eliminate differences between manufacturing and service firms. Also, similar to the approach of [Spanos and Lioukas \(2001\)](#), the study considers manufacturers in both consumer and industrial markets to ensure sufficient sample size and generalizability of the results. The study population includes 1000 firms listed on the Tokyo Stock Exchange. They operate in industries such as foods, chemicals, metal products, machinery, electric appliances, and transportation equipment. This study gathers the data annually from 2009 to 2011 to examine the stability of the results. By analyzing three years of survey data, this study can better observe the stability of the results than from a snapshot result in any single year. This survey is part of the Keio/Kyoto Joint Global Center of Excellence Program.

Given the constructs considered in this study, the respondents of the survey questionnaire are general managers, who would be most knowledgeable about the business and marketing strategies. The names and departments of the respondents come from databases such as *Diamond-Sha Kaisha Shokuinroku (Directory of Company Members)*. Additionally, given the large number of firms investigated, this study relies on a single respondent from each business. This approach is common in empirical studies using survey data.

The initial mailing includes a cover letter with instructions, a return envelope, and the questionnaire. Non-respondents receive a reminder follow-up letter three weeks after the initial mailing. The final sample consists of 568 responses: 146 in 2009, 259 in 2010, and 163 in 2011. The response rate in each of the years is higher than 14.6%. These response rates are roughly equal to those in similar studies (e.g., Galbreath & Galvin, 2008; Spanos & Lioukas, 2001). The respondents fill out the questionnaire with their names and positions. This study then checks to confirm that the respondents are in fact general managers. The mean firm size is 2749 employees. Furthermore, manufacturers operating primarily in consumer markets represent 25.5% of the full sample, and manufacturers operating primarily in industrial markets make up the remaining 74.5%.

The study makes a comparison between early and late respondents in each of the years to assess non-response bias. The results reveal no significant differences in key variables, which indicate that non-response bias is not of significant concern (Armstrong & Overton, 1977).

3.2. Measures

The Appendix A shows the measures and their sources. This study uses existing measures from past research. Questions regarding industry forces capture Porter's (1980) five forces of industry structure (competitive rivalry, ease of entry, threat of substitutes, power of buyers, and power of suppliers). This study measures the five forces separately using items drawn from Galbreath and Galvin (2008), Jaworski and Kohli (1993), Paladino (2008), and Spanos and Lioukas (2001). Following Galbreath and Galvin (2008) and Spanos and Lioukas (2001), four forces (ease of entry, threat of substitutes, power of buyers, and power of suppliers) base themselves on single items. Items from Jaworski and Kohli (1993) and Morgan et al. (2009) measure three sets of activities for market orientation (market knowledge generation, dissemination, and responsiveness). Items from Morgan et al. (2009) and Vorhies and Morgan (2005) measure four sets of marketing capabilities concerning marketing mix (new product development, pricing, channel management, and marketing communications).

With respect to business performance, this study takes items from Morgan et al. (2009) and Spanos and Lioukas (2001) and asks respondents for their assessments of their business's three performance measures: market effectiveness, market growth, and profitability. This study analyzes at the business unit level, not at the firm level. Because accurate business unit level performance measures are difficult to obtain from secondary sources, this study uses subjective performance measures.

All of these items use six-point scales for measurement (see the Appendix for details). For three activities of market orientation, four marketing capabilities, and three performance measures, the study forms composite measures by averaging the items and using reflective constructs.

Firm size (number of employees) is a common control variable in strategic management research (Galbreath & Galvin, 2008). Thus, this study includes firm size as a control variable. Additionally, this study dummy-codes each business according to whether the business is operating primarily in consumer or industrial markets and adopts this business-type variable in the analyses to control for its effects. Furthermore, the study incorporates year dummy variables in the analysis of the full sample to control for year-specific effects.

Because data come from a single respondent from each business, this study tests for common method variance (CMV). Harman's one-factor test (Podsakoff & Organ, 1986) reveals multiple factors, with the most influential factor accounting for 24.7% of the 66.2% explained variance. This study also uses the technique suggested by Lindell and Whitney (2001) that the weakest correlation among the manifest variables provides a reasonable proxy for CMV. Following their suggestion, this study adjusts the correlation matrix by the value of the weakest correlation and compares unadjusted and adjusted correlations. The results show no significant differences in the coefficients, which indicate that CMV has no significant influence.

4. Results

The study tests the proposed hypotheses using PLS-SEM (Hair, Hult, Ringle, & Sarstedt, 2013). PLS-SEM is best-suited for this study because one of the goals is identifying key drivers of performance, and some of the sample sizes are relatively small (cf. Hair et al., 2013). The software used is SmartPLS 3 (Ringle, Wende, & Jan-Michael, 2014). Based on Hair et al. (2013) and previous empirical studies using PLS-SEM (e.g., Donate & Sánchez de Pablo, 2015; MacMillan, Money, Money, & Downing, 2005; Okazaki & Taylor, 2008; Rapp, Trainor, & Agnihotri, 2010), this study estimates and assesses the PLS-SEM model in two stages: (1) assessment of the measurement model to establish reliable and valid measures of the constructs in the model, and (2) test of the structural model by evaluating the statistical significance of the relationships specified in the model and the predictive ability of the model.

Following Hair et al. (2013), the study evaluates the measurement model. For constructs measured by multiple items, composite reliability (CR) and Cronbach's alpha (CA) indicate acceptable internal consistency reliability at the construct level. The CR is a more appropriate criterion for internal consistency reliability, and its values between 0.70 and 0.90 satisfy the standard; in this study, the CR values range from 0.81 to 0.87. The average variance extracted (AVE) and the loadings of the items indicate acceptable convergent validity at the construct level. The AVE is a common measure to establish convergent validity, and its values of 0.50 or higher satisfy the standard; in this study, the AVE values exceed 0.58. The Fornell-Larcker criterion (Fornell & Larcker, 1981) and the cross-loadings of the items show acceptable discriminant validity. The Fornell-Larcker criterion is an approach that evaluates discriminant validity and suggests that the square root of each construct's AVE should be greater than its correlations with other constructs. The constructs of this study meet this criterion. Also, loadings for all items are statistically significant and a loading for each item is greater than all cross loadings. Table 1 presents descriptive statistics and the results discussed above. Overall, the results show that the constructs used have good measurement properties.

Table 2 shows the results of the structural model. PLS-SEM uses bootstrapping to determine the statistical significance of the path coefficients. In each year's sample, of the five forces of industry structure, only competitive rivalry and power of suppliers have a negative and significant effect on performance in one or two of the three years. The paths from ease of entry, threat of substitutes, and power of buyers are not significant in any of the results. This finding suggests that though the direct effects of the five forces of industry structure on performance exist, they are partial and variable. Market orientation has a positive and significant effect on performance in only one of the three years. This finding suggests the presence of the direct but variable effect of market orientation on performance. Marketing capabilities are the most important driver of business performance in that the path coefficients are strongly positive (0.46 in 2009, 0.56 in 2010, and 0.65 in 2011) and statistically significant at the $p < 0.01$ level in all three years. This finding indicates that the direct effect of marketing capabilities on performance exists and is both important and stable.

The R^2 value of business performance indicates the predictive accuracy of the model. As shown in Table 2, the R^2 values are 0.29 in 2009,

Table 1
Descriptive statistics, internal consistency reliability, and convergent and discriminant validity.

	Mean	S.D.	CR	CA	AVE	Range of loadings	Range of cross loadings	Fornell-Larcker criterion									
								1	2	3	4	5	6	7	8		
1. Competitive rivalry	4.8	0.8	0.81	0.68	0.59	0.58–0.90	0.02–0.38	0.77									
2. Ease of entry	2.8	1.3	n.a.	n.a.	n.a.	n.a.	n.a.	0.15	n.a.								
3. Threat of substitutes	3.3	1.3	n.a.	n.a.	n.a.	n.a.	n.a.	0.16	0.39	n.a.							
4. Power of buyers	4.6	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	0.39	0.03	0.01	n.a.						
5. Power of suppliers	3.6	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	0.20	−0.04	0.15	0.17	n.a.					
6. Market orientation	3.9	0.7	0.87	0.77	0.69	0.76–0.87	0.04–0.58	0.16	−0.11	−0.08	0.16	0.02	0.83				
7. Marketing capabilities	3.5	0.6	0.84	0.76	0.58	0.70–0.80	0.01–0.58	0.08	−0.02	0.03	−0.01	0.03	0.57	0.76			
8. Business performance	3.7	0.7	0.84	0.72	0.64	0.77–0.83	0.01–0.50	−0.08	−0.01	−0.02	−0.04	−0.13	0.39	0.59	0.80		

Notes: CR = composite reliability, CA = Cronbach's alpha, AVE = average variance extracted. The diagonal elements are the square roots of AVEs. The off-diagonal elements are the correlations between constructs. n.a. = not applicable.

0.47 in 2010, and 0.47 in 2011. The Q^2 value of business performance indicates the predictive relevance of the model. The Q^2 values are 0.10 in 2009, 0.31 in 2010, and 0.23 in 2011. These results demonstrate that the model has moderate predictive accuracy and medium predictive relevance (cf. Hair et al., 2013). Overall, the results support Hypotheses 1, 2, and 3.

In the full sample, marketing capabilities (0.55, $p < 0.01$) are the most important driver of business performance, followed by competitive rivalry (-0.15 , $p < 0.01$), power of suppliers (-0.12 , $p < 0.01$), and market orientation (0.10, $p < 0.05$). The R^2 and Q^2 values for performance are 0.40 and 0.24, respectively. The results mirror those of each year's sample. Also, control variables (firm size, business type, and year dummy variables) are not significant in any of the analyses presented here.

Given these results, this study undertakes three additional analyses. These additional analyses and findings can be important components of empirical studies. First, because market orientation results in no direct effect on performance in two of the three years, this study conducts an additional analysis. Reflecting the steps in the marketing management process, which are market research → segmentation, targeting, and positioning → marketing mix (Kotler, 1999) and the results of empirical studies that find an indirect effect for market orientation (e.g., Han, Kim, & Srivastava, 1998; Hooley, Greenley, Cadogan, & Fahy, 2005; Hult et al., 2005; Zhou, Yim, & Tse, 2005), this study tests an alternative model with market orientation as an antecedent of marketing capabilities. Ketchen, Hult, and Slater (2007) suggest that

market orientation allows the firm to take better strategic actions, and strategic actions that capitalize on the market orientation will enhance performance. According to the process of market orientation → strategic actions → performance, this study considers marketing capabilities as strategic actions and expects that market orientation has an indirect effect on performance through marketing capabilities.

Table 3 presents the results. In the analyses of years 2009, 2010, and 2011, as well as of the full sample, the effects of industry forces, market orientation, and marketing capabilities on performance and the R^2 and Q^2 values for performance are similar to the results described above. Importantly, the effects of market orientation on marketing capabilities are strongly positive (0.58 in 2009, 0.64 in 2010, 0.62 in 2011, and 0.61 in the full sample) and significant, and the indirect effects on performance are consistently positive (0.28 in 2009, 0.37 in 2010, 0.42 in 2011, and 0.35 in the full sample) and significant. These results indicate that the indirect effect of market orientation on performance through marketing capabilities is present and stable.

Second, considering the results above regarding the modest effect of competitive rivalry and the exploratory results of Wilden and Gudergan (2015) indicating that competitive rivalry (competitor turbulence) affects the impacts of marketing and technological capabilities on performance, this study examines whether the effect of marketing capabilities on performance differs between high and low competitive rivalry groups. Firms could lose market share and sales volume in environments characterized by high competitive rivalry. In such

Table 2
Structural model results.

Independent variables	Dependent variable: Business performance					
	2009 (n = 146)	2010 (n = 259)	2011 (n = 163)	Full (n = 568)	CR _{high} (n = 284)	CR _{low} (n = 284)
	β	β	β	β	β	β
Industry forces						
Competitive rivalry (CR)	−0.21**	−0.16	−0.05	−0.15***		
Ease of entry	0.10	0.00	−0.04	0.02	−0.02	0.06
Threat of substitutes	−0.05	0.04	−0.10	−0.01	−0.02	−0.02
Power of buyers	−0.01	0.07	−0.03	0.03	0.07	−0.08
Power of suppliers	−0.16**	−0.12**	−0.11	−0.12***	−0.10**	−0.16***
Market orientation	0.05	0.15**	0.04	0.10**	0.02	0.18***
Marketing capabilities	0.46***	0.56***	0.65***	0.55***	0.62***	0.48***
Firm size	0.05	−0.01	−0.02	0.01	0.01	−0.02
Business type	0.09	−0.01	−0.04	0.01	−0.04	0.07
Year dummies				Included	Included	Included
R^2	0.29	0.47	0.47	0.40	0.44	0.40
Q^2	0.10	0.31	0.23	0.24	0.28	0.20

Notes: Business type (0 = "consumer goods" and 1 = "industrial goods").
CR_{high} = high competitive rivalry, CR_{low} = low competitive rivalry.
Double underline indicates a significant difference at the $p < 0.05$ level between path coefficients of the two groups.
** $p < 0.05$.
*** $p < 0.01$.

Table 3
Structural model results.

		2009 (n = 146)	2010 (n = 259)	2011 (n = 163)	Full (n = 568)	CR _{high} (n = 284)	CR _{low} (n = 284)
		β	β	β	β	β	β
Direct effects							
Industry forces							
Competitive rivalry (CR) →	Business performance	-0.21**	-0.16	-0.06	-0.15***		
Ease of entry →	Business performance	0.10	0.00	-0.04	0.02	-0.02	0.06
Threat of substitutes →	Business performance	-0.05	0.04	-0.10	-0.01	-0.02	-0.02
Power of buyers →	Business performance	-0.01	0.07	-0.03	0.03	0.07	-0.07
Power of suppliers →	Business performance	-0.16**	-0.12**	-0.10	-0.12***	-0.10**	-0.17***
Market orientation →	Business performance	0.03	0.15**	0.01	0.09**	0.00	0.16**
Market orientation →	Marketing capabilities	0.58***	0.64***	0.62***	0.61***	0.62***	0.61***
Marketing capabilities →	Business performance	0.48***	0.57***	0.67***	0.56***	0.63***	0.49***
Firm size →	Business performance	0.06	-0.01	-0.02	0.01	0.02	-0.03
Business type →	Business performance	0.09	-0.01	-0.04	0.01	-0.05	0.06
Indirect effect							
Market orientation →	Business performance	0.28***	0.37***	0.42***	0.35***	0.39***	0.30***
Year dummies							
					Included	Included	Included
R ²	Marketing capabilities	0.34	0.41	0.39	0.38	0.38	0.37
R ²	Business performance	0.29	0.47	0.48	0.41	0.44	0.40
Q ²	Marketing capabilities	0.17	0.23	0.18	0.20	0.21	0.19
Q ²	Business performance	0.10	0.31	0.24	0.25	0.28	0.20

Notes: Single underline indicates a significant difference at the p < 0.10 level between path coefficients of the two groups. Double underline indicates a significant difference at the p < 0.05 level between path coefficients of the two groups.

** p < 0.05.
*** p < 0.01.

environments, marketing capabilities to gain market share and sales volume would become more important. Marketing capabilities enable the firm to use a better marketing mix to survive in intensely competitive business environments. Thus, this study expects that the effect of marketing capabilities on performance is stronger in highly competitive rivalry groups.

This study uses PLS-SEM multi-group analysis (PLS-MGA) to assess the differences between path coefficients of the high and low rivalry groups. To assign each observation to either the high or low rivalry group, this study averages the values of three items measuring competitive rivalry and determines the following scale: ≥5 for high competitive rivalry and <5 for low competitive rivalry. Tables 2 and 3 show the results. With respect to significant differences, marketing capabilities exert a stronger positive impact on performance in cases of high competitive rivalry compared with low competitive rivalry. Also, the indirect positive effect of market orientation on performance

through marketing capabilities is stronger in cases of high competitive rivalry.

Third, this study explores the distinct effects of four marketing capabilities on performance. While the above analyses suggest that the confluence of the four marketing capabilities has a strong positive effect on performance, each marketing capability may have a positive effect on performance individually. For example, developing better new products, using better pricing skills, building better relationships with distributors, or executing better advertising programs may lead to a competitive advantage over competitors and, in turn, to superior overall performance.

This study conducts the analyses similar to those described above using PLS-SEM and PLS-MGA to examine the distinct effects of the four marketing capabilities. Table 4 shows the results. Of the four marketing capabilities, new product development and pricing are stable sources of performance. Both capabilities are also important sources of performance, followed by marketing communications and channel

Table 4
Structural model results.

Independent variables	Dependent variable: Business performance					
	2009 (n = 146)	2010 (n = 259)	2011 (n = 163)	Full (n = 568)	CR _{high} (n = 284)	CR _{low} (n = 284)
	β	β	β	β	β	β
Industry forces						
Competitive rivalry (CR)	-0.22**	-0.16	-0.09	-0.14***		
Ease of entry	0.09	-0.01	-0.06	0.01	-0.03	0.06
Threat of substitutes	-0.05	0.02	-0.08	-0.01	-0.02	-0.02
Power of buyers	0.00	0.09	-0.04	0.03	0.07	-0.05
Power of suppliers	-0.15**	-0.13**	-0.08	-0.12***	-0.10**	-0.17***
Marketing capabilities						
New product development	0.17*	0.28***	0.44***	0.29***	0.30***	0.29***
Pricing	0.31***	0.26***	0.30***	0.28***	0.19***	0.34***
Channel management	0.05	0.20***	0.00	0.10**	0.18***	0.04
Marketing communications	0.11	0.10*	0.12*	0.12***	0.17***	0.08
Firm size	0.06	0.00	-0.02	0.02	0.01	-0.03
Business type	0.08	-0.02	-0.08	0.00	-0.05	0.04
Year dummies						
				Included	Included	Included
R ²	0.31	0.47	0.51	0.41	0.45	0.41
Q ²	0.10	0.30	0.25	0.25	0.28	0.21

Notes: Single underline indicates a significant difference at the p < 0.10 level between path coefficients of the two groups.

* p < 0.10.
** p < 0.05.
*** p < 0.01.

management. Moreover, channel management has a stronger effect on performance in cases of high competitive rivalry.

5. Discussion and conclusions

This study examines the effects of industry forces, market orientation, and marketing capabilities on business performance by using PLS-SEM on three years (2009–2011) of survey data ($n = 568$) from Japanese manufacturers. The empirical results of the relative importance and stability of the above factors on business performance, based on the three years of survey data, are the most important contribution of this study.

As a whole, the findings indicate that marketing capabilities have the strongest positive influence on business performance, followed by industry forces, specifically, competitive rivalry and power of suppliers, and market orientation. This is a noticeable pattern in the relative importance of these factors on performance.

The results provide an answer to the research question proposed in Section 1: of industry forces, market orientation, and marketing capabilities, which specific factors have a stable effect on performance over the three years investigated? In answer to this question, this study shows that the direct effect of marketing capabilities on performance is strongly positive and stable over the three years investigated, an important finding of this study.

Also, in terms of discrete marketing capabilities, the positive effects of new product development and pricing are relatively strong and stable. These results may be related to those observed by Homburg, Vomberg, Enke, and Grimm (2015). They indicate that among eleven decision areas, pricing and new product development are the most important decision areas for success of the strategic business unit. In addition, this study investigates the moderating role of competitive rivalry on the relationships between marketing capabilities and performance. The results suggest that marketing capabilities at an aggregate level and channel management have significantly stronger relationships with performance in cases of high competitive rivalry compared with those of low competitive rivalry.

These findings have managerial implications. Above all, a manufacturer needs to provide valuable products and services by building and deploying multiple superior marketing capabilities, with a focus on new product development and pricing. Next, managers should note that some drivers of performance differ in their effects according to the level of competitive rivalry the manufacturer faces. Managers should enhance the integrated marketing mix and channel management to grow and survive in intensely competitive markets.

Additionally, this study suggests that each of the five forces of industry structure and market orientation are not as important or stable as marketing capabilities as direct drivers of performance. As Galbreath and Galvin (2008) suggest, pro-competitive policies, rapid changes in product markets, rapid technological diffusion, and globalization characterize today's business environment. In such a relatively competitive environment, industry forces may be becoming less relevant drivers of performance.

As described in Section 2, Morgan et al. (2009) find no support for a path linking market orientation directly with subjective performance. Hult et al. (2005) show that market orientation's objective performance effects indirectly manifest themselves in organizational responsiveness. The present study shows that market orientation indirectly improves performance through marketing capabilities in all three years, whereas the direct effect on performance exists in only one of the three years. These results suggest the importance of the continuous and complementary process of market orientation → marketing capabilities, the core of dynamic marketing capabilities, in renewing firm resources. Market orientation (e.g., acquisition of new market knowledge) allows the manufacturer to generate better marketing capabilities (e.g., develop better new products), and marketing capabilities that capitalize on the market orientation will enhance performance (cf. Ketchen et al., 2007).

Although the present study provides useful and interesting results regarding key drivers of business performance, a consideration of its limitations is necessary. First, in common with previous empirical studies (e.g., Galbreath & Galvin, 2008; Jaakkola et al., 2010; Kamasak, 2011; Ngo & O'Cass, 2012a, 2012b; Spanos & Lioukas, 2001), given the large number of firms investigated, this study uses data from a single respondent from each business and, therefore, has a potential for response bias. Future studies may need to collect data from multiple respondents from each business. Second, this study covers the limited business context of Japanese manufacturing firms. Further studies might expand data to include service firms and compare the results for manufacturing and service firms. An assessment of the generalizability of the results to countries other than Japan will be important. Additionally, while this study uses three years of survey data, a thorough assessment of the stability of the results over time requires five to ten years of survey data. Finally, this study examines the roles of industry forces, market orientation, and marketing capabilities as drivers of performance. Future research could take into account other potential drivers of performance beyond the scope of the present study to include factors such

Appendix A. Measures

as various dynamic capabilities, specifically, processes to tap innovation

Industry forces	Galbreath and Galvin (2008), Jaworski and Kohli (1993), Paladino (2008), Spanos and Lioukas (2001), (1 = "strongly disagree" and 6 = "strongly agree")
Competitive rivalry	Competition in our industry is cutthroat Anything that one competitor can offer, others can match readily
Ease of entry	Price competition is a hallmark of our industry
Threat of substitutes	It is easy for new players to enter our industry Competitors outside of our industry offer viable substitutes for our products
Power of buyers	Our major customers are in a strong bargaining position with us
Power of suppliers	Our major suppliers have the strength to bargain with us effectively
Market orientation	Jaworski and Kohli (1993), Morgan et al. (2009), (1 = "strongly disagree" and 6 = "strongly agree")
Market knowledge generation	In this business unit, we meet with customers at least once a year to find out what products and services they will need in the future In this business unit, we do a lot of in-house market research We poll end-users at least once a year to assess the quality of our products and services We often talk with or survey those who can influence our end-users' purchases (e.g., retailers or distributors) We periodically review the likely effect of changes in our business environment (e.g., regulations) on customers
Market knowledge dissemination	We have interdepartmental meetings at least once a quarter to discuss market trends and developments Marketing personnel in our business unit spend time discussing customers' future needs with other functional departments Our business unit periodically circulates documents (e.g., reports, newsletters) that provide information on our customers
Responsiveness to market knowledge	When something important happens to a major customer or market, the whole business unit knows about it in a short time Data on customer satisfaction are disseminated at all levels in this business unit on a regular basis It takes us forever to decide how to respond to competitor price changes (R) For various reasons, we tend to ignore changes in our customers' product and service needs (R) We periodically review our product and service development efforts to ensure that they are in line with what customers want If a major competitor were to launch an intensive campaign targeted at our customers, we would implement an immediate response

(continued on next page)

Appendix A (continued)

	Customer complaints fall on deaf ears in this business unit (R)
	Even if we came up with a great marketing plan, we probably would not be able to implement it in a timely fashion (R)
Marketing capabilities	Morgan et al. (2009), Vorhies and Morgan (2005), (1 = "much worse than competitors" and 6 = "much better than competitors")
New product development	Ability to develop new products and services Developing new products and services to exploit R&D investment Successfully launching new products and services Ensuring that product and service development efforts are responsive to customer needs
Pricing	Using pricing skills and systems to respond quickly to market changes Knowledge of competitors' pricing tactics Doing an effective job of pricing products and services Monitoring competitors' prices and price changes
Channel management	Strength of relationships with distributors Attracting and retaining the best distributors Adding value to our distributors' businesses Providing high levels of service support to distributors
Marketing communications	Developing and executing advertising programs Advertising management and creative skills Public relations skills
Business performance	Brand image management skills and processes Morgan et al. (2009), Spanos and Lioukas (2001), (1 = "much worse than competitors" and 6 = "much better than competitors")
Market effectiveness	Market share Sales volume
Market growth	Growth in market share Growth in sales volume Acquiring new customers Increasing sales to current customers
Profitability	Profit margin Return on own capital Net profits

Note: (R) denotes reverse coded items.

from suppliers and complementors, selecting decision-making protocols, and knowledge management (Teecce, 2007).

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