

# Market orientation, knowledge-related resources and firm performance

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## Abstract

Based upon new perspectives to explain superior business performance, an integrative conceptual model that links these different explanations of superior performance is presented, highlighting the role of knowledge-related resources as key antecedents of the continuous creation of competitive advantages (Day 1994, Day George S. The capabilities of market-driven organizations. *J Mark* 1994a, 58 [October]: 37–52., Day George S. Continuous learning about markets. *Calif Manage Rev* 1994b, 36 [Summer]: 9–31., Hunt and Morgan, 1995, Hunt Shelby D., Morgan Robert M. The comparative advantage theory of competition. *J Mark* 1995; 59 [April]: 1–15). An empirical test of this conceptual model is conducted with a Chilean sample of publicly traded firms, using structural equations modeling. The results show a significant impact of: market orientation, market sensing and innovativeness (among other knowledge-related resources) on superior performance, thus providing support for the original ideas of Drucker (1954) [Drucker Peter F. *The practice of management*. New York: Harper and Row Publishers, 1954.] and Schumpeter (1934), and for the dynamic evolutionary approaches to strategy (Dickson, 1992, Dickson Peter R. Toward a theory of competitive rationality. *J Mark* 1992; 56: 69–83., Dickson, 1996, Dickson Peter R. The static and dynamic mechanics of competition: a comment on Hunt and Morgan's comparative advantage theory. *J Mark* 1996; 60: 102–106.; Hill and Deeds, 1996, Hill C.W., Deeds D.L. The importance of industry structure for the determination of firm profitability: a Neo-Austrian perspective. *J Manag Stud* 1996; 33: 429–451.).

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As one of the first scholars to argue for the marketing concept philosophy in business, Drucker (1954, p. 37) suggests that any business enterprise has two—and only these two—basic functions: marketing and innovation. In spite of such early recognition of the importance of market orientation and innovativeness as key strategic resources for a business' success, marketing researchers and strategists do not pay much attention to this until lately. In the last 15 years, however, new theories of business superior performance emerge from the work of marketing, strategy, organizational theory and economics scholars. These new perspectives, known under the labels of: resource-based view of the firm, competence-based competition, and evolutionary theory, share a special focus on a firm's rare, valuable, and difficult-to-

imitate resources (e.g., intangible assets, organizational capabilities) as antecedents of superior business performance (Barney, 1991, Slater and Narver, 1995). Based upon this work, the original ideas of Drucker (1954), Schumpeter (1934), and Dickson (1992), and other developments in the marketing strategy literature (Hunt and Morgan, 1995; Olavarrieta and Friedmann, 1999), a model that links these different explanations of superior performance is developed. This model highlights the role of a market-oriented culture and knowledge-related resources as antecedents for the continuous creation of competitive advantages.

## 1. Resource-based and evolutionary economics explanations of firm performance

Contrary to the propositions of the neoclassical theory of perfect competition, empirical evidence suggests that firms indeed earn differential returns (Rumelt, 1991). Two very influential schools in the search of explanations for these

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superior returns are the resource-based school of thought, and the evolutionary approach to strategy. The Resource-Based View (RBV) approach characterizes firms as heterogeneous bundles of resources and rent-seekers, aiming their strategies at obtaining superior performance in the form of economic rents attributed to unique and specialized resource combinations (Bharadwaj et al., 1993; Day 1994a; Day and Wensley, 1988; Hunt and Morgan, 1995, Rumelt et al., 1991; Wernerfelt, 1984). Firms' sustainable competitive advantages and superior performance are determined then by the possession of valuable, rare, and imperfectly imitable resources (Barney, 1991). The emerging evolutionary approach to strategy, is considered the natural extension of the resource-based approach, given their common roots in Austrian and evolutionary economics (Dosi and Nelson, 1994; Foss et al., 1995). The evolutionary approach to strategy is more dynamic in nature, considering organizational learning, discovery, adaptation, and strategic choice, as playing important roles in the evolution of organizations and industries (Barnett and Burgelman, 1996). This school of thought suggests that the three main antecedents of a firm's long-run success are: (1) its ability to generate valuable innovations; (2) its ability to build barriers to imitation that protect core competencies from imitation from rivals; and (3) its ability to overcome organizational inertia and quickly imitate the valuable innovations of others (Hill and Deeds, 1996).

Based on the previous schools of thought and marketing strategy literature, this article proposes an integrative model of firm superior performance. The model simultaneously considers the role of culture and knowledge-related resources, linking the market orientation (Kohli et al., 1993; Slater and Narver, 1995) and dynamic capabilities literatures (Cohen and Levinthal, 1990; Day, 1994a,b; Hunt and Morgan, 1995; Winter, 2003). The model proposes that knowledge-related resources mediate the effect of a firm's market-oriented culture on firm performance. This proposition means then that market-oriented firms have normally superior returns given their superior market sensing, imitation and innovation skills, as well as reputation assets. The model identifies three different types of knowledge-related resources: the firm's market-sensing capability; the firm's imitation capability; and the firm's organizational innovativeness and reputation assets.

A firm's market-sensing capability is the firm's capacity to gather and interpret knowledge from the market, in particular from customers, competitors, and technologies; and includes its capacity to store it all in an accessible organizational memory (Cohen and Levinthal, 1990; Day, 1994a,b). This definition of market-sensing capability builds from Day's (1994a) original conceptualization and Cohen and Levinthal's (1990) notion of absorptive capacity. A firm's imitation capability is the firm's ability to use their knowledge about competitors in order to react quickly, copying the advantages in processes or products of actual competitors, or from firms belonging to related or different industries (Dickson, 1992). A firm's innovativeness represents the degree to which the firm generates new, timely and creative new product/service introductions, using the accumulated knowledge of customers, competitors and technologies (Deshpande et al., 1993). Reputational assets are another type of intangible knowledge-related resources. Knowl-

edge, in this case, (i.e., reputational knowledge) is created and lays in the minds of consumers. The relevance of reputational assets for explaining firm success is enhanced by two reasons: the increasing value assigned by consumers to attributes unrelated to the product (e.g., image), and the importance of corporate image and reputation for the imperative of managing a firm's stakeholders (Fombrun and Shanley, 1980; Keller, 1993). The section below discusses the model's hypotheses.

## 2. Research hypotheses

### 2.1. Market orientation and superior performance

Market orientation (MO), is the implementation of the marketing concept philosophy, and can be considered as a cultural orientation (Slater and Narver, 1995). The MO literature provides evidence that a market-oriented culture can be an important determinant of business performance, because by tracking and responding to customer needs and preferences, market-oriented firms can better satisfy customers and reach superior financial performance (Greenley, 1995; Kohli et al., 1993). This view is consistent with Fiol's (1991), who indicates that organizational culture can be a source of sustainable competitive advantage and superior performance, when it provides a basis for value-creating activities and when it is scarce among different competitors. In a similar way, Atuahene-Gima (1995), Narver et al. (2004) and Atuahene-Gima et al. (2005) suggest and test a general association between market orientation and new product performance. Therefore, the study includes the following hypotheses. H<sub>1a</sub>: Market orientation relates positively with overall firm performance. H<sub>1b</sub>: Market orientation relates positively with new product performance.

### 2.2. Market orientation and knowledge-related resources

Slater and Narver (1995) suggest that MO is the principal cultural foundation of the learning organization (p. 67). MO reflects a culture that encourages organizational learning behaviors, in order to create and maintain profitable relationships with customers. As Day (1994a) indicates, market-driven cultures support the value of thorough market intelligence. This argument supports the existence of a positive relationship between a market-driven culture and a firm's knowledge-related resources (Baker and Sinkula, 1999). Day (1994a), linking the resource-based approach to strategy with the philosophy of the marketing concept, suggests that market-driven organizations tend to have superior outside-in capabilities—that is, market-sensing, customer linking, and channel bonding capabilities. In a similar way, Sinkula (1994) argues for a positive relationship between market orientation and the activities embraced in a firm's market-sensing capability; namely: market information acquisition, dissemination, interpretation and storage. H<sub>2a</sub>: A positive association exists between market orientation and a firm's market-sensing capability.

Furthermore, some authors link MO to a firm's innovativeness (Deshpande et al., 1993). Atuahene-Gima (1996) finds support for a general positive association between market

orientation and a firm's innovativeness, specifically in terms of innovations' characteristics such as product newness, product advantage, product-company fit, and innovation-market fit. Similarly, Slater and Narver's (1995) findings are consistent with a positive relationship between market orientation and product development innovativeness. H<sub>2b</sub>: A positive association exists between market orientation and a firm's innovativeness.

As Dickson (1992) proposes innovation, as well as imitation are both important consequences following from a market-oriented firm. Dickson (1992) suggests that firms that are most alert to environmental stimuli are the most competitive, and those more likely to implement necessary changes to imitate and improve what is being done in the market. This idea is consistent with Schewe (1996), who indicates that those firms that are closer to the customer and know their markets, competitors, and channel members, are more likely to develop superior imitation capabilities. H<sub>2c</sub>: A positive association exists between market orientation and a firm's imitation capability.

### 2.3. Knowledge-related resources and firm performance

Organizational learning refers to the development of new knowledge or insights in the organization, with the potential to influence firm behavior. Organizational learning can be an important determinant of sustainable competitive advantages (SCAs) and superior business performance (Fiol and Lyles, 1985; Levitt and March, 1988; Sinkula, 1994). Organizational learning processes are catalyzed by the firm's ability to sense the market, absorb new information, distribute it, interpret it, and store it for accessible retrieval (Day 1994a,b; Day and Schoemaker 2005; Huber, 1991). As many authors indicate, a firm's market-sensing capability may be an important, and/or perhaps the most critical source of SCAs (Dickson, 1992; Narver et al., 2004; Sinkula, 1994). A superior ability to sense the market and absorb its incoming information is critical, given today's acceleration of markets and technological changes, the explosion in the quantity of data available, and the importance of anticipatory and/or preemptive moves in the marketplace. H<sub>3a</sub>: A positive association exists between a firm's market-sensing capability and overall firm performance. H<sub>3b</sub>: A positive association exists between a firm's market-sensing capability and new product performance.

### 2.4. Organizational innovativeness and firm performance

Several researchers in strategy and marketing suggest that a firm's innovativeness is associated with superior performance, because it is the best way to gain a competitive edge and renew competitive advantages (Deshpande et al., 1993; Dickson 1992, 1996; Drucker 1954; Hill and Deeds 1996). Under this perspective, the more innovative firms are those that are more: timely, creative, prolific in the introduction of new products or services, and quicker in modifying existing offerings so as to provide superior benefits to their customers (Deshpande et al., 1993; Moorman 1995). Atuahene-Gima (1996) provides empirical evidence of the positive association

between innovativeness, market success and project impact performance. H<sub>4a</sub>: A positive association exists between a firm's innovativeness and overall firm performance. H<sub>4b</sub>: A positive association exists between a firm's innovativeness and new product performance.

Imitating competitors' innovations or present sources of competitive advantages can sometimes have the same effect on relative superior performance, as being innovative. Imitation offsets competitors' advantages and knowledge differentials, and lowers their relative performance (Zander and Kogut, 1995)). This process is the "later entrant advantage" or "free-rider advantage" (Golder and Tellis, 1993; Schnaars, 1994). Following the same logic, Dickson (1992) highlights that innovation and imitation are both necessary behaviors to succeed in the marketplace. H<sub>5</sub>: A positive association exists between a firm's imitation capability and firm performance.

### 2.5. The mediating role of knowledge-related resources

Despite some studies supporting the direct association between market orientation and firm performance, the empirical evidence is not totally consistent; particularly when profitability measures of performance are considered (Greenley, 1995; Slater and Narver, 1995). One possible explanation for this, is that the effect of a market-oriented culture may be mediated by other important intangible (e.g., knowledge-related) resources, which implicitly suggests the mediating role of knowledge-related resources. An explicit formulation of the mediating hypotheses is provided here, for it allows the test of this mediating effect separately from the tests of the direct hypotheses (H<sub>2a</sub>, H<sub>2b</sub>, H<sub>2c</sub>, and H<sub>3a</sub>, H<sub>3b</sub>, H<sub>4a</sub>, H<sub>4b</sub>, and H<sub>5</sub>). H<sub>6a</sub>: An indirect relationship exists between market orientation and overall firm performance, mediated by a firm's knowledge-related resources. H<sub>6b</sub>: An indirect relationship exists between the degree of market orientation and new product performance, mediated by a firm's knowledge-related resources.

### 2.6. Reputation assets and firm performance

As suggested by Golder and Tellis (1993) and Kerin et al. (1992), first movers do not always appropriate the rents from innovations. Late entrants may capture the rents because they have necessary complementary resources such as reputational assets or good distribution networks (Teece, 1986). Marketing researchers often emphasize the role of reputational assets—for example: brand equity, corporate reputation, corporate image—on superior performance. In the last 10 years, the role of brands as key intangible resources and sources of SCAs and superior performance has been particularly highlighted (Aaker, 1991; Keller, 1993). Also, several authors suggest and explore a positive association between corporate reputation and company image, and a firm's superior performance (Fombrun and Shanley, 1980; Fryxell and Wang, 1994; Johnson and Zinkhan, 1990). From a financial perspective, empirical evidence is also available, suggesting that brands can in fact be sources of abnormal returns (Simon and Sullivan, 1993; Lane and Jacobson, 1995). H<sub>7a</sub>: A positive association exists between

Table 1  
Operationalization of constructs

| Construct (items)                          | Measure   | Reliability (alfa de cronbach)                |
|--|---|---|
| Market orientation (7, 5 and 3)            | Narver and Slater's 15-items scale (1990). Three dimensions are hypothesized: customer orientation, competitor orientation, and interfunctional coordination  | 0.87, 0.78, and 0.88 for each dimension       |
| Brand strength (5)                         | Adapted measure capturing brand awareness, uniqueness (proprietary asset), perceived quality, brand favorability and extendibility (Aaker, 1991; Bharadwaj, 1994)   | 0.88  |
| Firm image (4)                             | Adapted measure from Fryxell and Wang 1994 (also Bharadwaj, 1994) focusing on overall reputation relative to competitors, overall perceived quality/efficiency of products/services, firm's reputation as employer, and financial reputation              | 0.89  |
| Market-sensing capability (5, 5, 6, and 4) | New measure based on Huber (1991), Sinkula (1994) and Day (1994a,b). Four dimensions are hypothesized: information acquisition activities, information dissemination activities, information interpretation activities, and information storage-retrieval | 0.84, 0.77, 0.91, and 0.91 for each dimension |
| Imitation capability (5)                   | New measure capturing the willingness and readiness to imitate (Dickson 1992, 1996; Schnaars 1994)  | 0.81  |
| Firm's innovativeness (5)                  | Adapted measure (Deshpande et al., 1993; Moorman 1995) focusing on new technological content of product, first-to-market new products/services, process innovativeness, and industry leadership   | 0.86  |
| New product performance (5)                | Adapted measure from Moorman (1995) focusing of new product general sales success, profitability, market share, creativity and timeliness   | 0.91  |
| Overall firm performance (4)               | Return on assets, growth rate, market share and overall success relative to competitors in the last 3 years (Dess and Robinson, 1984; Deshpande et al., 1993)   | 0.91  |
| Market turbulence (4)                      | Adaptation of Kohli and Jaworski's measure (1990), focusing on technological and consumer changes   | 0.81  |

the strength of a firm's brands and new product performance.  $H_{7b}$ : A positive association exists between the strength of a firm's brands and overall firm performance.  $H_8$ : A positive association exists between a firm's image and overall firm performance.

### 2.7. The moderating effect of market turbulence

According to existing literature, the effects of MO on performance might be moderated by the turbulence in the environment (Kohli and Jaworski, 1990, Slater and Narver, 1994). In more turbulent environments, a high MO will be more beneficial as firms can better follow, sense, and make sense of changes in the environment. These moderating effects of market turbulence can be extended to the relationship between knowledge-related resources and performance. The reason is that, as suggested earlier, knowledge-related resources mediate the effects of market orientation on performance. Then, the theory includes two sets of moderating hypotheses.  $H_9$ : The more turbulent the market, the more positive the association of: a) market orientation, b) market-sensing capability, c) organizational innovativeness, and d) imitation capability, with overall firm performance.  $H_{10}$ : The more turbulent the market, the more positive the association of: a) market orientation, b) market-sensing capability, and c) organizational innovativeness, with new product performance.

## 3. Research design and method

The study includes building structural equation models to test the integrative conceptual model. Survey data were collected from the universe of 317 publicly traded firms in Chile. Surveys were personally delivered to CEOs and Marketing Vice Presidents of these firms, who served as key informants; receiving 116 surveys, with a response rate of 36.6%. A total of 93% of the informants are CEOs, Marketing Vice Presidents and Area Vice Presidents, with an average of

more than 8 years in their organizations, and with high involvement in strategic decision-making (average score of 6.1 in a 7-point scale). To check for the reliability of key informants, 2 top executives were contacted from a subset of firms, and their answers were analyzed, finding high inter-informant reliability ratings. Additionally, informant reliability was checked using external financial data, obtaining high and significant correlations between informants' subjective measures of firm performance, and available ROE/ROA financial indexes. The survey instrument included existing measures, and in the case of specific constructs where valid measures were not available, new ones were developed following standard measurement development procedures (Churchill, 1979, Gerbing and Anderson 1988). See Table 1 for a summary of the sources for these measures and reliability coefficients.

The initial version of the survey questionnaire was back-translated to Spanish, and then pre-tested with a sample of 49 top-business executives, in order to assess the wording, readability, and clarity of the measures; and to improve its psychometric characteristics (validity and reliability). With the data collected in the final study, further scale development (reliability and validity assessment) was performed. Additional checks were also performed to assess the validity of the scale utilized to measure firm overall performance.

Following common practices in structural equations modeling, the study includes first purifying the measurement model, and after establishing reasonable reliability and discriminant validity of the constructs, testing the structural model (Gerbing and Anderson, 1988). In order to estimate the measurement model, measures of the first order factors of the market-sensing capability and market orientation were computed by a weighted average of the selected indicators using the standardized loadings as the weights. These seven measures were combined with the other 26 measures of the remaining seven endogenous, and exogenous constructs, for estimating the measurement model. A re-specification process was performed in order to assure reliability and discriminant validity, having content

validity of the measures in mind. The results of the CFA of the final measurement model show a reasonable fit of the model to the data (CFI=0.94, IFI=0.94, GFI=0.83, RMR=0.05). Additionally, all of the loadings of the observed variables on the latent constructs are significant, and the computed reliability coefficients are all larger than Nunnally's (1978) 0.7 criteria: market orientation ( $\alpha=0.74$ ), brand strength ( $\alpha=0.92$ ), firm image ( $\alpha=0.76$ ), market-sensing capability ( $\alpha=0.70$ ), organizational innovativeness ( $\alpha=0.94$ ), imitation capability ( $\alpha=0.88$ ), new product performance ( $\alpha=0.90$ ), and overall firm performance ( $\alpha=0.83$ ).

#### 4. Results and hypotheses testing

After building a proper measurement model, estimating the structural equation model is possible for testing the hypothesized relationships using LISREL (Bollen 1989; Joreskog and Sorbom, 1989). The hypothesized model includes the following set of equations, representing the measurement models for exogenous ( $x$ ) and endogenous variables ( $y$ ), and the structural model that relates the latent independent variable ( $\eta$ ) with the explanatory latent variables ( $\xi$ ):

$$x = A_x \xi + \delta$$

$$y = A_y \eta + \varepsilon$$

$$\eta = B\eta + \Gamma \xi + \zeta$$

Fig. 1 shows the specification of the model in a path diagram.

After a theoretically and statistically driven re-specification process, following established procedures, a final model is estimated and its fit is assessed by means of a combination of

different indexes. The traditional goodness-of-fit indices, GFI (Jöreskog and Sörbrom, 1989) and NFI (normed fit index, Bentler and Bonnett, 1980), are 0.81 and 0.84, respectively show only a moderate fit of the model to the data. Yet, the examination of other indexes such as: CFI=0.92 (comparative fit index, Bentler, 1990), the IFI=0.92 (incremental fit index, Bollen, 1989), the NNFI=0.91 (non-normed fit index, Bentler and Bonnett, 1980), and the RMSEA=0.08 (root mean square error of approximation), suggest a reasonable fit. Bentler (1990), in a Monte-Carlo simulation study, shows that with smaller sample sizes ( $n < 200$ ), CFI, IFI, and NNFI indices are preferred over other goodness-of-fit indices in terms of their model assessment accuracy. Therefore, the revised theoretical model appears to provide a reasonable level of representation of the data and contributes to the understanding of the covariation among the different variables. Table 2 provides the parameter estimates of the LISREL standardized solution for the final revised model. These parameter estimates are then used to test the hypotheses. Fig. 1 provides a graphic representation of the estimates in the path diagram and Table 2 presents a summary of the hypotheses tests.

H<sub>1a</sub> and H<sub>1b</sub>. The analysis does not support the predicted direct effect of market orientation on overall firm performance and new product performance. Although the estimated parameters for these direct effects have the expected sign, they are not statistically significant, and a chi-square difference test indicates that it was reasonable to remove these parameters in the final model. Therefore, the findings do not support hypothesis H<sub>1a</sub> and H<sub>1b</sub>.

H<sub>2a</sub>, H<sub>2b</sub>, and H<sub>2c</sub>. The conceptual model suggests positive relationships between the degree of market orientation of a firm,

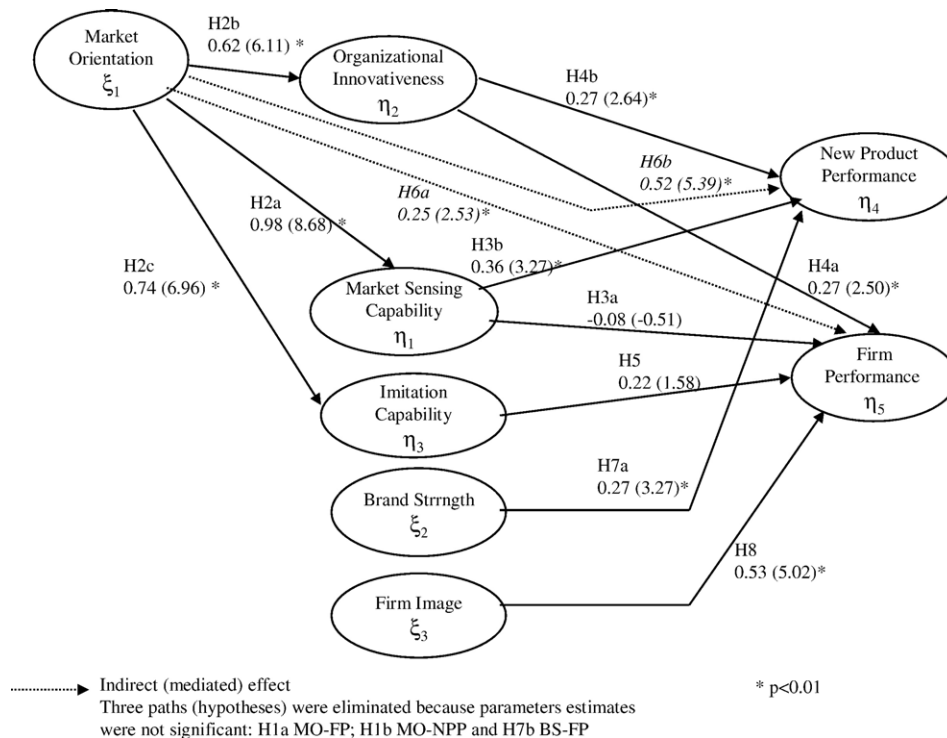


Fig. 1. Final revised structural model and parameter estimates.

Table 2  
Hypotheses tests

| Model   | Parameter <sup>a</sup>  | Std. estimate | t-value | Hypothesis supported |
|---|---|---------------|---------|----------------------|
| H <sub>1a</sub> : Market orientation->overall firm performance            | $\gamma_{51}$   | Dropped       |         | No                   |
| H <sub>1b</sub> : Market orientation->new product performance             | $\gamma_{41}$   | Dropped       |         | No                   |
| H <sub>2a</sub> : Market orientation->market-sensing capability           | $\gamma_{11}$   | 0.98          | 8.68**  | Yes                  |
| H <sub>2b</sub> : Market orientation->innovativeness                      | $\gamma_{21}$   | 0.62          | 6.11**  | Yes                  |
| H <sub>2c</sub> : Market orientation->imitation capability                | $\gamma_{31}$   | 0.74          | 6.96**  | Yes                  |
| H <sub>3a</sub> : Market-sensing capability->overall firm performance     | $\beta_{51}$  | -0.08         | -0.51   | No                   |
| H <sub>3b</sub> : Market-sensing capability->new product performance      | $\beta_{41}$  | 0.36          | 3.27**  | Yes                  |
| H <sub>4a</sub> : Innovativeness->overall firm performance                | $\beta_{52}$  | 0.27          | 2.50*   | Yes                  |
| H <sub>4b</sub> : Innovativeness->new product performance                 | $\beta_{42}$  | 0.27          | 2.64*   | Yes                  |
| H <sub>5</sub> : Imitation capability->overall firm performance           | $\beta_{53}$  | 0.22          | 1.58    | Partial              |
| H <sub>6a</sub> : Market orientation->overall firm performance (mediated) | $\gamma_{31}\beta_{51} + \gamma_{21}\beta_{52} + \gamma_{31}\beta_{53}$ | 0.25          | 2.53*   | Yes                  |
| H <sub>6b</sub> : Market orientation->new product performance (mediated)  | $\gamma_{31}\beta_{41} + \gamma_{21}\beta_{42}$                         | 0.52          | 5.39**  | Yes                  |
| H <sub>7a</sub> : Brand strength->new product performance                 | $\gamma_{42}$   | 0.27          | 3.27**  | Yes                  |
| H <sub>7b</sub> : Brand strength->overall firm performance                | $\gamma_{52}$   | Dropped       |         | No                   |
| H <sub>8</sub> : Firm image->new product performance                      | $\gamma_{43}$   | 0.53          | 5.02**  | Yes                  |

Fit Indices Model:

$\chi^2(df=174)=304.9$  ( $p<0.0001$ ); RMR=0.072, RMSEA=0.08  
CFI=0.92; IFI=0.92; NNFI=0.91; GFI=0.81; NFI=0.84

<sup>a</sup>All hypothesized signs are positive, \*\* $p<0.001$ ; \* $p<0.01$ .

and a firm's knowledge-related resources. Market orientation relates positively to a firm's market-sensing capability innovativeness ( $\gamma_{11}=0.98$ ,  $t=8.68$ ,  $p<0.001$ ), to organizational innovativeness ( $\gamma_{21}=0.62$ ,  $t=6.11$ ,  $p<0.001$ ), and to a firm's imitation capability ( $\gamma_{31}=0.74$ ,  $t=6.96$ ,  $p<0.001$ ), supporting hypotheses H<sub>2a</sub>, H<sub>2b</sub> and H<sub>2c</sub>.

H<sub>3a</sub> and H<sub>3b</sub>. Contrary to hypothesis H<sub>3a</sub>, market-sensing capability has no effect on overall firm performance ( $\beta_{51}=-0.08$ ,  $t=-0.51$ ,  $p>0.05$ ). The standardized estimate is slightly negative, yet not significant. However, as predicted, a firm's market-sensing capability is positively associated with new product performance ( $\beta_{41}=0.36$ ,  $t=3.27$ ,  $p<0.001$ ), supporting hypothesis H<sub>3b</sub>. Hence, a firm's market-sensing capability appears to enhance a firm's new product performance, but that is not the case with overall firm performance.

H<sub>4a</sub> and H<sub>4b</sub>. Organizational innovativeness, a firm's capacity to lead an industry in innovations by launching new products or services, was found to be positively associated with overall firm performance ( $\beta_{52}=0.27$ ,  $t=2.50$ ,  $p<0.01$ ) and new product performance ( $\beta_{42}=0.27$ ,  $t=2.64$ ,  $p<0.01$ ), thus supporting hypotheses H<sub>4a</sub> and H<sub>4b</sub>.

H<sub>5</sub>. The conceptual model predicts a positive association between a firm's imitation capability and overall firm performance. As the parameter estimate suggests,  $\beta_{53}=0.22$  ( $t=1.58$ ,  $p=0.057$ ), a relationship in the predicted direction exists, but the statistical test is non-significant at the 0.05 level; though it is significant at the 0.1 level. Accordingly, hypothesis H<sub>5</sub> can be considered partially supported.

H<sub>6a</sub> and H<sub>6b</sub>. Hypotheses H<sub>6a</sub> and H<sub>6b</sub> predicted a positive indirect relationship, mediated by a firm's knowledge-related resources (i.e., market-sensing capability, organizational innovativeness, and imitation capability). To test these hypotheses, estimates of the total effects (which in this case are equal to the indirect effects) of market orientation on both measures of performance are used. According to this procedure, the total

effect of market orientation on overall firm performance can be estimated by the following formula:  $\gamma_{11}\beta_{51} + \gamma_{21}\beta_{52} + \gamma_{31}\beta_{53}$ . The standardized estimate for this effect is 0.25, and it is statistically significant ( $t=2.53$ ,  $p<0.01$ ), thus supporting hypothesis H<sub>6a</sub>. The total effect of market orientation on new product performance is then estimated by the following formula:  $\gamma_{31}\beta_{41} + \gamma_{21}\beta_{42}$ , leading to a standardized estimate of 0.52, which is significant, and in the hypothesized direction ( $t=5.39$ ,  $p<0.001$ ). Therefore, hypotheses H<sub>6a</sub> and H<sub>6b</sub> are supported.

H<sub>7a</sub> and H<sub>7b</sub>. The hypotheses here is that strength of a firm's brands positively affects new product performance and overall firm performance. As Table 2 shows, the parameter  $\gamma_{42}$  which represents the direct effect of brand strength on new product performance, has a value of 0.27 and is statistically significant ( $t=3.27$ ,  $p<0.001$ ), providing support for H<sub>7a</sub>. Hypothesis H<sub>7b</sub>, however, is not supported. In the initial theoretical model, parameter  $\gamma_{52}$  is very close to zero and non-significant ( $\gamma_{52}=-0.04$ ,  $t=-0.25$ ,  $p>0.59$ ). Because of this, the path is dropped from the final model, indicating no association between brand strength and overall firm performance.

H<sub>8</sub> predicts that another reputation asset—firm image—relates positively with overall firm performance. As Table 2 shows, the parameter estimate for this hypothesis is positive and statistically significant ( $\gamma_{43}=0.53$ ,  $t=5.02$ ,  $p<0.001$ ). This finding supports H<sub>8</sub>.

Moderating hypotheses H<sub>9a,b,c,d</sub>; and H<sub>10a,b,c</sub>. In order to test these hypotheses, the sample is split in two groups using the median score of the market turbulence scale, and separate models are estimated for the high-turbulence and low-turbulence sub-samples, comparing the appropriate paths. Path-analytic models are used because the sub-samples are relatively small to fit the complete structural model. The results show that market turbulence has a moderating effect on the relationship market orientation ->overall firm performance

(H<sub>9a</sub>, partially supported) and on the market-sensing capability > overall firm performance relationship (H<sub>9b</sub>,  $p=0.013$ ). However, the findings include no significant moderating effect for the hypothesis addressing the firm's innovativeness on overall firm performance (H<sub>9c</sub>;  $\Delta\chi^2(1)=0.29, p=0.59$ ). Finally, a moderating effect of market turbulence on the relationship between a firm's imitation capability and overall firm performance is supported by the chi-square difference test ( $\Delta\chi^2(1)=6.37, p=0.012$ ), but the direction is opposite to what was predicted. An analysis of the parameter estimates indicates that under low-turbulence conditions, a firm's imitation capability is positively and significantly associated with overall firm performance ( $\beta_{53L} t=0.78, t=2.62$ ). Under high-turbulence conditions, however, the effect disappears ( $\beta_{53H} t=0.00, t=-0.02$ ). With regard to the hypothesized moderating effects of market turbulence on the linkages among market orientation, market-sensing capability, organizational innovativeness, and new product performance (H<sub>10a</sub>, H<sub>10b</sub>, and H<sub>10c</sub>, respectively), None of these hypotheses is supported by the chi-square difference tests.

## 5. Implications and conclusions

In summary, the model shows an acceptable level of fit and a reasonable representation of the data. The model explains 50% of the variance in overall firm performance and 46% of the variance in new product performance, the two key dependent variables in the study. These results provide support for theoretical explanations of firm performance based on firm-specific resources and dynamic capabilities approaches. Overall, the model indicates a significant effect of market orientation on firm performance, which is mediated by the role of knowledge-related resources. This study highlights the importance of a market-oriented culture and the possession of market-sensing skills to develop and foster innovativeness and imitation capabilities in an organization. These resources might very well be keys for the survival and success of the firm. In terms of the effects of a firm's knowledge-related resources on performance, organizational innovativeness appears to be the most important one, having significant associations with both overall firm performance and new product performance. As the hypotheses propose, reputation resources are also an important determinant of firm performance. Finally, market turbulence appears to have a moderating effect on the relationships between overall firm performance and market orientation, market-sensing capabilities, and imitation capabilities.

These results are important because they empirically test theories developed mainly in the first world, in the context of a very vibrant Latin American marketplace. Becoming market-oriented does matter, and can have important effects on both new product performance and overall firm performance. Then, Latin American managers need to strengthen their efforts to continue transforming firms and more fully embrace a market-oriented culture. In that sense, a practical starting point for becoming market-oriented may be the measurement, and monitoring of market-oriented values and beliefs among employees, and the use of these scores in setting managers' objectives and compensation

schemas. The study provides support for the ideas that building knowledge-related resources is strongly associated with market orientation. In other words, the construction of dynamic capabilities such as: market-sensing, innovation, and imitation capabilities, requires particular values and beliefs in the organization, linked to a special focus and attention on market forces. For firms in many Latin American countries, and for companies that have foreign market presence and/or exporting as the major sources of revenues, these findings impose higher challenges. These companies may need to develop a market-oriented culture not just constrained to their own national marketplaces but to the different foreign markets where they operate. This is a very real challenge that some firms are starting to realize the hard way. There are currently many examples of many Latin American firms, very successful in their national markets, which have experienced failures when expanding to neighboring countries. This too, has also happened in several occasions to U.S. and European retailers, entering Latin American markets (Bianchi, 2006).

Value capturing resources, such as brands and companies' reputations, need to complement dynamic capabilities. Being innovative or having excellent benchmarking skills is just not enough; value in the marketplace also requires signaling to consumers through brands and reputation. Building strong brands, of course, requires a deep understanding of consumers and competitors' brands. Otherwise, establishing special, distinctive and strong connections with consumers' minds and hearts is a most difficult task. These managerial implications may also represent interesting avenues for research. As an example, further investigations can study the importance of particular and/or specific types of market orientation (e.g., responsive and proactive) on firm performance and new product success in the Latin American setting and other international settings.

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