

The impact of resource-strategy correspondence on marketing performance— financial performance tradeoffs

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We suggest that the relationships between strategy and financial performance and between strategy and marketing performance depend on the resource bundle and strategy of a firm. The better the correspondence between strategy and resource bundle, the better the performance. We empirically test and find support for this explanation. By building empirically calibrated models of the marketing and financial performance, we are able to show that, indeed, the optimum strategies for the two are not the same and more importantly that the difference varies depending on the resource bundle of a firm.

KEYWORDS: Resource-based theory; strategy; coherence; performance; tradeoffs

INTRODUCTION

As one considers a firm's success, it is tempting to assume that marketing success is highly correlated to financial success. Further consideration would lead to the question of what is the relationship between the success of a brand or a product in the market place and that of firm's shareholder returns. In more general terms the question may be posed as one of providing a parsimonious explanation for the differences between the two:

Traditionally, marketing activities focus on success in the product marketplace. Increasingly, however, top management requires that marketing view its ultimate purpose as contributing to the enhancement of shareholder returns (Day and Fahey, 1988). This change has led to the recognition that the relationship between marketing and finance must be managed systematically; no longer can marketers afford to rely on the traditional assumption that positive product-market results will translate automatically into the best financial results. (Srivastava, Shervani and Fahey, 1998, p.2)

The above quotation and the extant literature suggest that the traditional assumption that positive product-market results will translate automatically into the best financial results is not true. We propose a resource-strategy correspondence explanation to understand the differences in discrepancy between the two performance measures across firms in an industry.

Our paper is set in the literature streams in marketing strategy and strategic management that examine the relationships between resources, strategies, competitive advantage and performance. If early studies have investigated the relationships between market share and profitability (e.g., Buzzell and Gale, 1987), over the last decade, the identification of the relationship between strategy, resources, and competitive advantage has become particularly important in the development of marketing strategy thought and practice (e.g., Bharadwaj, Varadarajan and Fahy, 1993; Capron and Hulland, 1999; Day and Van den Bulte, 2002; Day and Wensley, 1988; Dickson, 1996; Hunt, 2000; Hunt and Morgan, 1995, 1996; Srivastava, Fahey and Christensen, 2001; Srivastava *et al.*, 1998). Indeed, the primary focus of this stream of the marketing strategy literature has been on identifying sources of competitive advantage, debating over the merits of various performance objectives for assessing competitive strength, and addressing the important role of marketing performance to the overall performance of the firm.

A view that has emerged in the literature is that marketing strategy should focus on building value to a firm by measuring and managing marketing performance measures such as, for example, customer satisfaction or service quality, so that economic value may be improved (Rust, Lemon and Zeithaml, 2004). To achieve these goals, marketing strategy decisions and processes should leverage the available competencies and resources of a firm (Capron and Hulland, 1999; Day and Van den Bulte, 2002; Day, 1994; Dickson, 1996; Hunt, 2000; Hunt and Morgan, 1995, 1996; Srivastava *et al.*, 2001; Srivastava *et al.*, 1998). These arguments enforce the strong assumption that the appropriate strategic position is known for a given resource bundle and that superior performance or value may be obtained by the appropriate alignment of strategy to resources. At the same time, there has been increased attention to the idea that firms' objectives or how they are measured change management behavior. While a substantial conceptual literature has emerged, little empirical research exists that examines the extended relationship between resources, strategies, and different performance objectives.

While it is now believed that marketing and financial objectives should be linked together, the literature suggests that a strategy designed to achieve superior financial performance may not achieve superior marketing performance and vice versa (Barwise, March and Wensley, 1989; Day and Fahey, 1988; Lane and Jacobson, 1995; Srivastava *et al.*, 1998, 1999). This poses a dilemma for firms, as they have to choose which performance objectives they should focus on. Marketing research and practice solve this dilemma by ignoring instead of by confronting it (Srivastava *et al.*, 1998; Anderson, 1982). Is the extent of the dilemma the same for all firms? To address this question, we draw upon the resource-based theory of competitive advantage (Barney, 1991; Grant, 1991; Peteraf, 1993) and its development in the marketing literature (Capron and Hulland, 1999; Day, 1994; Day and Van den Bulte, 2002; Dickson, 1996; Hunt, 2000; Hunt and Morgan, 1995, 1996; Srivastava *et al.*, 2001; Srivastava *et al.*, 1998).

We propose and empirically demonstrate that a firm's performance is a function of the correspondence between its current strategy and its resource endowment (both tangible and intangible) and that this relationship varies by performance objective. Additionally, our analysis provides insight as to which resource endowment's strategy is robust across marketing and financial objectives, and therefore in the long run is more likely to be the descriptor of the better overall performing firms in the industry.

The paper first presents a review of the relevant literature and then describes the conceptual framework and the set of hypotheses underlying the research study. We then describe the method used to collect data for the study and present our results. The paper draws a set of conclusions and discusses both the managerial implications of our study and the directions for further research.

LITERATURE REVIEW

The focus of the resource-based theory of competitive advantage is on the relationship between firm resources and firm performance. One of its key arguments is that sustainable competitive advantage can be achieved only when resources are valuable, rare, cannot be imitated, and have no substitutes (Barney, 1991; Grant, 1991; Hunt, 2000; Peteraf, 1993). Different types of resources have been identified in the literature as meeting these criteria, including accumulated stock of knowledge, organizational culture, human capital, market-based assets, and other intangible factors that a firm owns or controls (Amit and Schoemaker, 1993; Barney, 1986; Furrer, Sudharshan and Thomas, 2001; Grant 1991; Srivastava *et al.*, 1998).

Recently, marketing scholars have started to explore the resource-based theory's implications for marketing and the strategic role played by market-based assets (see Srivastava *et al.*, 2001 for a review) in the strategy of a firm. For example, the framework developed by Srivastava *et al.* (1998) argues that market-based assets influence marketing performance, which in turn, influences shareholder value. Drawing on the resource-based theory, Capron and Hulland (1999) examine the extent to which firms redeploy key marketing resources, such as brands, sales forces, and general marketing expertise, after horizontal acquisitions. However, as noticed by Srivastava *et al.* (2001), marketing scholars have so far devoted only little attention to applying resource-based theory.

In strategic management research, despite its widespread adoption, resource-based theory has received only limited empirical support in recent literature. At the group level resource-based theory has found some support from Mehra (1996) and Maijoor and van Witteloostuijn (1996) studies, but at the firm level the research is less conclusive. Some studies found significant effect of resources on performance (e.g., Powell, 1995; Russo and Fouts, 1997; Yeoh and Roth, 1999), other found no direct effect (Powell and Dent-Micallef, 1997), and some other found that the significance of the effect depend on performance measure (Combs and Ketchen, 1999; Decarolis and Deeds, 1999). The reasons for these conflicting results lie not only in the difficulties encountered in operationalizing the measurement of resources, but also because most of these empirical studies only relate performance to resource endowment without taking strategy into account. The need to consider the correspondence between a firm's resource profile and its product-market activities has been suggested by Wernerfelt (1984), Cool and Schendel (1988), Day and Van den Bulte (2002), Day and Wensley (1988), Grant (1991), and Barney (1991). As explained by Cool and Schendel (1988, p.209): 'If a firm's current actions are incongruent with its accumulated "stock" of assets, then it is likely to be less effective than other firms pursuing a similar strategy but with a good "fit" between current strategic investments and accumulated

assets'. However, to the best of our knowledge, this correspondence between a firm's resource profile and its product-market activities has not been put to empirical examination.

CONCEPTUAL FRAMEWORK AND HYPOTHESES

Figure 1 shows a framework, based on the previously discussed literature, that we have developed to provide an overarching guide for the development of our hypotheses and to provide an overall perspective with which to view our work. The framework is consistent with Day and colleagues' sources-positions-performance framework (Day and Wensley, 1988; Day and Van den Bulte, 2002). We use this framework as a basis for our hypotheses as well as to provide perspective.

As shown in Figure 1, performance is a function of the degree of correspondence between a firm's resource endowment and its current strategy. This correspondence is not automatic but the result of a strategic choice¹ (SC). Because of managers' bounded rationality (Cyert and March,

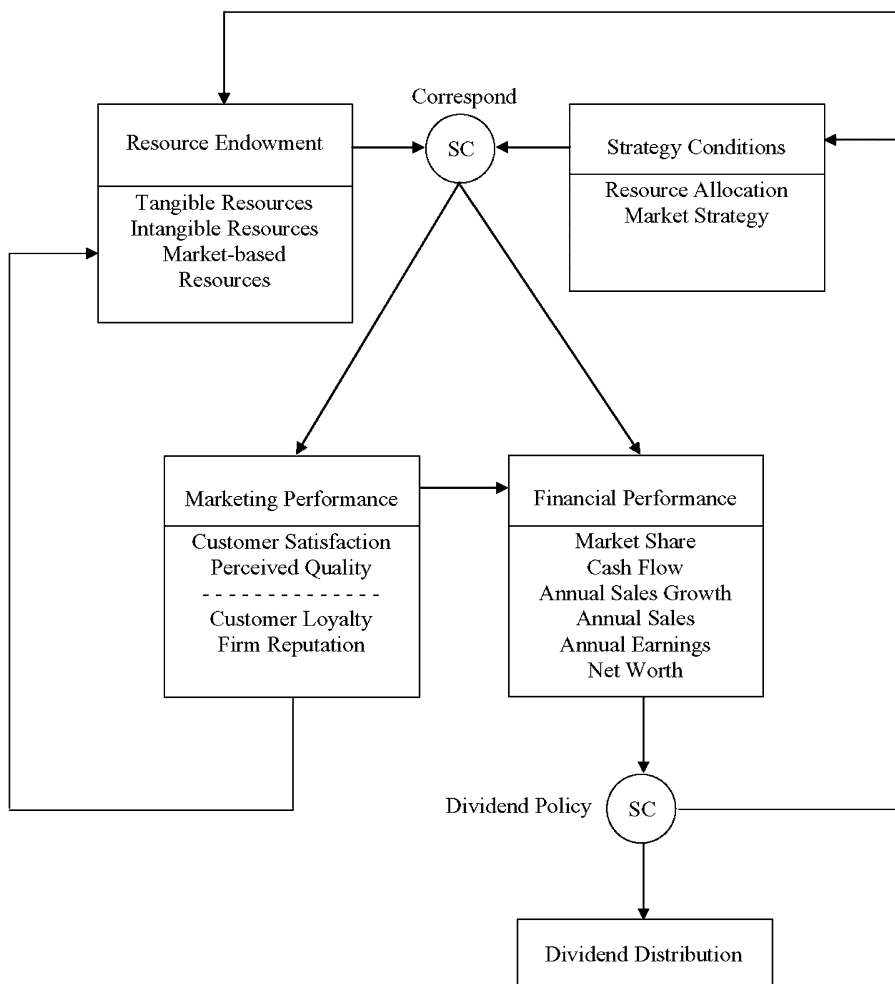


Figure 1. Conceptual framework

1963; March and Simon, 1958), this correspondence is achieved through learning and observations of the performance, the strategy, and the resource endowment of competitive firms in industry, which may lead firms to adjust their strategy or their resource endowment, or both. Resource endowment is the accumulated stock of knowledge, physical assets, human capital market-based assets, and other tangible and intangible factors that a firm owns or control (Amit and Schoemaker, 1993; Grant, 1991). Strategy is the continuing search for competitive advantages, through resource allocation and market positioning activities (Porter, 1996). A good correspondence between asset endowment and strategy may be defined on two different goals: superior marketing performance or superior financial performance. Marketing performance implies such objectives as customer satisfaction, perceived quality, customer loyalty, and firm reputation (Bharadwaj *et al.*, 1993). Financial performance implies such objectives as market share, cash flow, annual sales growth, annual sales, annual earnings, and net worth (Srivastava *et al.*, 1998, 1999). Marketing performance directly increases a firm's asset endowment, in particular, its market-based assets. Financial results may be partially distributed to shareholders or/and used to increase the asset endowment or implement strategy. The relative allocation between distribution and reinvestments is the result of a strategic choice. Reinvestment in resources and skills is necessary to maintain the barriers to imitation and other competitive advantages (Bharadwaj *et al.*, 1993; Dierickx and Cool, 1989), reinvestments in strategy are also necessary to improve the strategic position of a firm toward its competitors (Porter, 1985). Empirical evidence suggests that financial and marketing performance are related but not perfectly so, which means that for a firm with a given asset endowment, the strategy that improves its marketing performance will not necessarily improve its financial performance to the same extent and vice versa. The relationship between financial and marketing performance may be found to be statistically linear even if the relationship between financial performance and strategy and that between marketing performance and strategy are curvilinear. A strategy that is best for one may not be best for the other. Therefore, the choice of a primary strategic objective has important consequences for the development of a firm's strategy.

To direct our empirical analysis we developed a set of hypothesis, based on the literature and our earlier discussion of it. First, we developed empirical models relating firm resource and strategy to the different performance objectives. The development of the empirical performance-resource-strategy models is reported via Hypotheses 1a-b and 2a-b. Hypothesis 3 is specifically used to we test whether strategies that produce superior marketing performance are significantly different from strategies that produce superior financial performance. The question of whether the strategy-performance measure relationship varies by resource-strategy correspondence is then examined.

Wernerfelt (1984), Cool and Schendel (1988), Grant (1991), and Barney (1991) all suggest the existence of an appropriate correspondence between a firm's resource profile and its strategy leading to superior performance. We expect that such a correspondence is a better predictor of a firm's performance than asset endowment alone and than strategy alone. For financial performance:

H_{1a}: The degree of correspondence between resources endowment and strategy is likely to be a better predictor of a firm's financial performance than resource endowment alone.

H_{1b}: The degree of correspondence between resources endowment and strategy is likely to be a better predictor of a firm's financial performance than its strategy profile alone.

And similarly, for marketing performance:

H_{2a}: The degree of correspondence between resources endowment and strategy is likely to be a better predictor of a firm's marketing performance than its resource endowment alone.

H_{2b}: The degree of correspondence between resources and strategy is likely to be a better predictor of a firm's marketing performance than its strategy profile alone.

A firm with a certain resource bundle may improve its performance by adjusting its strategy. This implies that a strategy-performance response function may be known. Or at least, that a reference strategy (Fiegenbaum, Hart and Schendel, 1996, Fiegenbaum and Thomas, 1995) is used which is believed to have a superior performance associated with it and towards which the focal firm can make its adjustment. If marketing performance and financial performance do not have the same optimal strategy, as we expect, then the reference strategy for a firm with a given resource endowment will be vary depending on its performance objectives. We need to test that for a given resource endowment the strategy to achieve superior marketing and is different from that to achieve superior financial performance. So, more formally we hypothesize that:

H₃: For a firm with a given resource endowment, the reference strategy leading to superior financial performance is likely to be different from the reference strategy leading to superior marketing performance.

METHOD

Sample

To test our hypotheses, we collected data from the marketing technology industry. The choice of the marketing technology industry was made because in this industry linkages between marketing and technology distinctive competences underlie business models. The marketing technology industry is composed of firms that produce and/or sell at least one of the three components of a marketing technology (i.e., a technology specifically made for marketing applications) (Alexandre, Furrer and Sudharshan, 2000). The three components of a marketing technology are marketing technology processes, devices, and algorithms (Alexandre *et al.*, 2000; Van Wyk, 1996). Order handling processes and coupon redemption processes are examples of marketing technology processes; scanners, pupil meters, and people meters are examples of marketing technology devices; and the DEFENDER's optimization model and other decision support systems are examples of marketing technology algorithms. To preserve confidentiality we are not providing the names of firms that participated in the survey. However, we have chosen some well-known examples from secondary sources to provide a bit more texture to the context. An example of a firm in the marketing technology industry is Catalina Marketing, which has developed a high-tech alternative to traditional coupon clipping. Catalina provides technology that allows coupons to be printed on thermal printers and handed to shoppers based on their current purchases as sensed by checkout scanners. A spin-off of the information services firm Cognizant, Nielsen Media Research is another example of marketing technology firm. It measures television audience size at the national and local levels in the US and Canada. The company maintains about 5,000 of its people meters (designed by them) in randomly selected US households. These people meters provide data on what is being watched, as well as who is watching. Another example is FaxBack that has developed enhanced fax and voice response technology products that automatically fulfill incoming requests for technical information.

We mailed questionnaires to the president of 313 firms that we had identified as being in the marketing technology industry based on an initial search on the Internet, popular press, and academic press and a procedure of snowballing where respondents indicate the name of their principal competitors. We received 52 completed and usable questionnaires back, for an overall response rate of 16.61%. This rate is similar to the rate reported in the literature, which ranges from 5.9 to 22% (Gatignon and Robertson, 1989; Gatignon and Xuereb, 1997). Given the seemingly young nature of this industry, the response rate seems to be quite reasonable. A few callbacks did not result in survey returns and so no further callbacks were made. An analysis of the firms that did not answer the questionnaire shows no differences in terms of their size or in terms of their geographic location. The only difference found between the firms of our sample and those that did not answer the questionnaire was in terms of the scope of their activities. More diversified firms than non-diversified firms did not answer the questionnaire probably because they did not identify closely enough with the marketing technology industry. We draw this conclusion based on the fact that the firms that sent back the questionnaire as not being relevant to them were diversified firms and gave as the reason for the return of the questionnaire that they were not in the marketing technology industry—even though they had products that justified their being included in it.

The marketing technology industry is a new industry that was at a growing stage at the time of our survey (i.e., 1998). All of the firms in our sample entered the industry after 1972, with a median entry year being in 1987, and 64% of the firms of our sample have an annual sales growth rate that is higher than 20%.

Measurement of resource endowment

According to the resource-based theory, a firm's most important resources and capabilities are those that are valuable, rare, durable, difficult to identify and understand, imperfectly transferable, not easy to replicate or to substitute (Barney, 1991; Grant, 1991; Peteraf, 1993). To measure a firm's resource endowment, we use its origin. A firm's origin refers to the resources a firm has accumulated from past business activities (Chandler, 1962). Therefore, origin is also related to the prior experience and distinctive competences of a firm's parent-corporation (von Hippel, 1977; Miller and Camp, 1985; Lambkin, 1988).

Based on exploratory interviews with managers, we identify four types of firms in the marketing technology industry based on their resources configurations. In the marketing technology industry, two kinds of resources are particularly important: the knowledge of technology and the knowledge of marketing and marketing techniques. Clearly, the strengths of marketing specialists that are in the marketing technology industry reside in their marketing knowledge, and the strengths of technological specialists reside in their technological knowledge. In addition, a firm can be created to enter the marketing technology industry directly, or it can be a division or a subsidiary of an existing firm, like the ones coming from the marketing research industry, or the technology industry or from another industry. Based on their origins firms may be classified into the following resource configurations:

1. *Generalists (G)* are organizations that have decided to enter the new industry of marketing technology to leverage their strengths in both market knowledge and technology development. These organizations are likely to be divisions or subsidiaries of large firms and the marketing technologies introduced by them to the marketing technology market are likely to have been first developed for in-house use.

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2. *Marketing Specialists (MS)* are organizations with a marketing origin; they are divisions or subsidiaries of large marketing firms. These organizations enter the marketing technology industry by adapting new technologies for marketing applications. These organizations possess knowledge about the 'marketing' market, but to enter the new industry, they must acquire skills in new technologies.
 3. *Technology Specialists (TS)* are organizations with a technological origin; they are divisions or subsidiaries of large technological firms. For those organizations, entering the marketing technology industry means developing their technology for a new market—the marketing market.
 4. *Marketing Technology Innovators (MTI)* are firms that are solely devoted to marketing technology. They were founded by one or a group of individuals to develop business in the Marketing Technology Industry and are endowed with resources specific to this particular industry.

These four types of firms are similar to the categories of firms identified in many different industries by Sheth and Sisodia (2002), which they name: generalists, product specialists, market specialists, and super nichers, respectively.

To identify the resource configuration that a firm belonged to, respondents were asked to identify the entry scenario that best described their firm's entry into the marketing technology industry. Five alternative scenarios were proposed for the respondent to choose the most appropriate one for their firm/unit: the firm/unit is (1) a newly established one especially for the marketing technology industry; (2) one extending available technology in an existing firm to a new application for the marketing technology industry; (3) one extending available marketing capabilities of an existing firm to the new (for the firm) marketing technology industry; (4) a unit established by a firm to create a new (for the firm) technology for the marketing technology industry; and (5) a unit established by a firm to sell technology first created for internal use. Among the 52 firms of our sample, six are considered as Generalists (scenarios 4 and 5), eight as Marketing Specialists (scenario 3), 16 as Technology Specialists (scenario 2), 21 as Marketing Technology Innovators (scenario 1), and one has an unidentifiable origin (omitted in the statistical analyses).

Measurement of a firm's strategy

Miller (1986, 1987) identified four dimensions of strategy: innovation, marketing differentiation, focus (niche vs. related diversification), and cost leadership. These dimensions are similar to those of Porter (1980, 1985), except that Miller divided Porter's differentiation into differentiation by innovation and differentiation by marketing. These four strategic dimensions are not mutually exclusive (Campbell-Hunt, 2000; Karnani, 1984; Miller and Dess, 1993). Firms can be high on both innovation and focus; and a broad strategy is consistent with both innovation and cost leadership (Miller, 1986, 1987).

The questionnaire method of data collection used in this study relies on key informants' perceptions to indicate the firms' strategy. The advantages and disadvantages of this approach in terms of the use of informants and of the use of their perceptions to study strategy have been debated in the literature (e.g., Aaker, Kumar and Day, 1995). Seemingly, the resolution to the debate hinges on determining who best represents the organizational characteristics that are of interest. In the strategic management literature researchers often have relied on top management's assessment of firm strategy. For example, James and Hatten (1995) demonstrated convergent

validity using perceptual and archival measure of strategic orientations thus supporting the use of perceptual data.

To operationalize these four strategy dimensions, we used 12 variables developed by Dess and Davis (1984) in their operationalization of Porter's generic strategies. We selected three variables, to be parsimonious, for each of the strategy dimensions among those identified by Dess and Davis as the most important for each of the dimensions. For *innovation* we used: (1) product/service quality control; (2) developing/refining existing product/services; and (3) advertising. For *marketing differentiation* we used: (1) reputation within the industry; (2) innovation in marketing techniques and methods; and (3) experienced/trained personnel. For *focus* we used: (1) capability to manufacture/deliver specialty product/services; (2) innovation in manufacturing/service delivery processes; and (3) product/services in high price market segments. And for *cost leadership* we used: (1) competitive pricing; (2) procurement of raw materials; and (3) maintain high inventory levels. The importance of each of these variables was evaluated by each respondent on a 5-point scale ranging from not at all important to extremely important as in Dess and Davis.

With this target structure in mind we ran a factor analysis. The results are presented in Table 1. The structure was as expected and the Cronbach's alpha for the four factors are within acceptable limits ranging from a low of 0.63 to a high of 0.78.

Measurement of financial and marketing performance

Measuring the financial performance of new businesses presents special difficulties. New businesses have only short histories and are usually not expected to show much profit during the early years. Miller, Wilson and Adams (1988) as well as Day and Fahey (1988) have described the limitations involved in using traditional performance measures (return on investment, cash flow, market share gain and return to stockholders) to evaluate new ventures. Therefore, following

Table 1. Strategic orientation measures: factor structure

Strategic Variables	Strategic Orientations			
	Innov*	Cost	MDiff**	Focus
<i>Product/service quality control</i>	.840			
<i>Developing/refining existing products/services</i>	.706			
<i>Advertising</i>	.698			
<i>Competitive pricing</i>		.781		
<i>Procurement of raw materials</i>		.727		
<i>Maintain high inventory levels</i>		.719		
<i>Reputation within industry</i>			.847	
<i>Innovation in marketing techniques and methods</i>			.815	
<i>Experienced/trained personnel</i>			.806	
<i>Capability to manufacture/deliver specialty products/services</i>				.797
<i>Innovation in manufacturing/service delivery processes</i>				.783
<i>Products/services in high price markets segments</i>				.561
<i>Cronbach's alpha</i>	.70	.63	.78	.65

*=Innovation; **=Marketing Differentiation

Chandler and Hanks (1993), six items were used to measure growth (three items) and business volume (three items). For growth, we used: (1) perceived growth in market share; (2) change in cash flow; and (3) sales growth; and for business volume, we used: (1) earnings; (2) sales; and (3) net worth. Each of these items was measured on a 6-point scale. Factor analysis showed that the six items form one single factor explaining 61.6% of the variance (Cronbach's alpha=.69). Factor scores are used as a financial performance index. Table 2A gives the coefficients of correlation between the index and the different financial performance variables.

Marketing researchers long have been interested in market-based measures of performance such as brand equity and firm reputation (e.g., Aaker, 1991; Keller, 1993; Weiss, Anderson and MacInnis, 1999), customer satisfaction (e.g., Anderson and Sullivan, 1993), customer loyalty (e.g., Oliver, 1999; Reichheld, 1996), and perceived quality (e.g., Rust, Zahorik and Keiningham, 1995). Consistent with this literature stream, we used four indicators to measure marketing performance: (1) customer loyalty; (2) customer satisfaction; (3) firm reputation; and (4) perceived quality as compared to competitors, measured using a 5-point scale (1=well below average, 5=well above average). Factor analysis showed that the four items form one single factor explaining 68.3% of the variance (Cronbach's alpha=.62). Factor scores are used as a marketing performance index. Table 2B gives the coefficients of correlation between the index and the different marketing performance variables.

The square of the coefficient of correlation, or R-square, between financial and marketing performance indices is 0.62. So, while marketing performance and financial performance share statistically significant variance, roughly 38% of the variance is unique and not shared. Also, as we noted earlier, a linear relationship between financial and marketing performance may mask curvilinear relationships between them and strategy individually.

Table 2. Financial and marketing performance measures

A. Financial Performance	Loadings
<i>Market Share</i>	.749
<i>Cash Flow</i>	.760
<i>Annual Sales Growth</i>	.776
<i>Annual Sales</i>	.820
<i>Annual Earnings</i>	.813
<i>Net Worth</i>	.788
<i>Cronbach's alpha</i>	.69
B. Marketing Performance	Loadings
<i>Customer Satisfaction</i>	.897
<i>Firm Reputation</i>	.844
<i>Customer Loyalty</i>	.805
<i>Perceived Quality</i>	.754
<i>Cronbach's alpha</i>	.62

RESULTS

In order to test our first two hypotheses, we have first to identify a reference strategy for each of the resource configurations and then to evaluate the relationship between these reference strategies and performance. Then, we have to test if the degree of correspondence between resources and strategy better predicts a firm's performance, than by any of the two variables alone.

Resource-performance and strategy-performance relationships

To evaluate if a firm's resource endowment is a good predictor of its performance, we tested the existence of performance differences between the resources configurations. Table 3 presents the average financial and marketing performances for each of the resource configurations. Since financial and marketing performance are a result of a factor analysis, they are standardized, i.e., overall (or industry) mean=0 and overall (or industry) standard deviation=1.

In terms of financial performance, only the Marketing Specialists have a slightly lower performance than the industry average, but not significantly. The ANOVA test we ran to test the existence of differences between the resource configurations was also not significant. In terms of marketing performance, none of the resource configurations are significantly different from the industry average and the differences between the resource configurations are also not significant. The fact that performance differences are not significant means that, in the marketing technology industry, there is not a single resource endowment that is better than all the others but that different firms with different resource bundles may perform equally well.

To evaluate if strategy is a good determinant of a firm's performance, we ran a multiple-regression between each of the performance measures and the four dimensions of strategy. Table 4 shows the standardized coefficients of the regression and their level of significance.

The two regression models for financial and marketing performance are significant and account for 57.8% and 32.0% of the variance respectively. Financial performance is significantly influenced by three of the strategic dimension: Innovation, Cost and Marketing Differentiation, but not by Focus. It is to be noticed that the coefficient for Cost is negative. That is not so surprising because of the nature of the marketing technology industry, which is young, growing and technology-driven. Only Marketing Differentiation significantly influences marketing performance. These results show that strategy alone explains a large proportion of performance variation, but can the degree of correspondence between strategy and resource endowment be a better predictor of performance variation?

Table 3. Resource configurations' average performance

<i>Performance</i>	<i>Resource Configurations</i>			<i>Generalists</i>
	<i>Technology Specialists</i>	<i>Marketing Technology Innovators</i>	<i>Marketing Specialists</i>	
<i>Financial Performance</i>	.108 (.242)	-.039 (.227)	-.782 (.522)	-.198 (.727)
<i>Marketing Performance</i>	-.168 (.233)	.121 (.238)	-.014 (.319)	-.117 (.531)

Means (standard errors)

Table 4. Relationships between strategy and performance: regression coefficients

Strategy Dimensions	Financial Performance	Marketing Performance
<i>Innovation</i>	.458**	-.189 ^{NS}
<i>Cost Leadership</i>	-.376**	-.062 ^{NS}
<i>Marketing Differentiation</i>	.479***	.581***
<i>Focus</i>	-.189 ^{NS}	-.097 ^{NS}
<i>N</i>	39	50
<i>F</i>	14.359***	6.886***
<i>R</i> ²	.621	.375
<i>R</i> ² _{adj}	.578	.320

^{NS}=Non-significant; **=p-value <.001; ***=p-value <.0001; $R^2_{fin/non-fin}=62.1\%$

Reference strategy for each resource configuration

The reference strategy is the strategy a firm should aim at to gain superior performance. Hunt (2000) shows that superior performance implies that firms seek a level of performance exceeding that of some referent that can be the firm's own performance in a previous time period, the performance of rival firms, an industry average, or a stock market average, among other. In this paper, consistent with established configuration theory procedures (see e.g., Venkatraman, 1989; Vorhies and Morgan, 2003), we make the assumption that the referent are the above-average performers in the industry and we operationalized the reference strategy for the members of each resource configuration as the location of the median strategy position of the members of the same resource configuration with an above average performance.² As the data are not normally distributed and the size of the sample is small, medians are extremely robust to outliers and other deviations from normality that is why we used medians rather than averages to calculate the positions of the reference strategies. We compute the position of the reference strategy for each resource configuration based on financial performance and on marketing performance separately. Table 5 gives the positions of the reference financial and market strategies for each of the resource configurations.

In our framework, a firm's performance is modeled to be a function of the degree of correspondence between a firm's resource endowment and its strategy. For a firm with a given resource endowment, we operationalize this degree of correspondence as the gap between a firm's actual strategy and the reference strategy for its resource configuration. This gap is measured by the Euclidean distance in strategy space between a firm's strategy position and the position of the reference strategy for its resource configuration (Strategic Distance) (e.g., Drazin and Van de Ven, 1985; Venkatraman, 1990; Vorhies and Morgan, 2003). The strategic distance (*SD*) is calculated by the following formula:

$$SD_{fn} = \sqrt{\sum_{i=1}^4 (S_{fin} - S_{in}^+)^2}$$

Where SD_{fn} is the strategic distance of a firm f of the resource configuration n , S_{fin} is the score of the same firm on the strategic dimension i , and S_{in}^+ is the position of the reference strategy for the resource configuration n on the strategic dimension i .

Table 5. Resource configurations' reference strategies**A. Financial Reference Strategy**

Strategy Dimensions	Resource Configurations			
	G	MS	TS	MTI
Innovation	.439	-.173	.033	.255
Cost Leadership	.322	-1.383	-.521	-.569
Marketing Differentiation	.927	.334	-.682	.653
Focus	.050	1.991	.465	-.264

B. Marketing Reference Strategy

Strategy Dimensions	Resource Configurations			
	G	MS	TS	MTI
Innovation	.939	-.173	.268	.656
Cost Leadership	.237	-1.067	.865	-.449
Marketing Differentiation	.909	.678	-.031	.476
Focus	.775	1.016	.781	-.643

G=Generalists; MS=Marketing Specialists; TS=Technology Specialists; MTI=Marketing Technology Innovators

To evaluate the relationship between the performance and the distance to the reference strategy, we used a model, similar to that used by Day, DeSarbo and Oliva (1987) to validate their strategy map. The model, presented in Equation 1, is an OLS regression between firm's performance and strategic distance with the performance ($Perf_n^+$) at the heuristic optimal strategy point added and a zero intercept. $Perf_n^+$ is the median performance of the above-average firms of each resource configuration n . The rationale for this zero intercept constraint is that at the heuristic optimal strategy point, a firm should have a performance equal to:

$$Perf_n^+.$$

$$Perf_{fn} = \beta \cdot SD_{fn} + Perf_n^+ + \varepsilon \quad (1)$$

The financial performance at financial reference strategy calculated for the different resource configurations, respectively, are: .829 for the Generalists, .180 for the Marketing Specialists, .506 for the Technology Specialists, and .574 for the Marketing Technology Innovators. The marketing performance at the marketing reference strategy calculated for the different resource configurations are: .807 for the Generalists, .910 for the Marketing Specialists, .807 for the Technology Specialists, and .842 for the Marketing Technology Innovators, respectively.

Both models for financial and marketing performances fit the data very well with R_r^2 equal to .703 (F -value=80.117, p -value <.001) and .727 (F -value=113.706, p -value <.001) respectively³ and the β coefficients are equal to $-.521$ (p -value <.001) and $-.450$ (p -value <.001), respectively.

Given the good fit of the model for financial performance and that the direct relationships between resources and performance were not significant, Hypotheses 1a and b are supported. And since the above coefficients are higher than those of the relationships between strategy and performance, Hypotheses 2a and b are also supported. That means that the degree of correspondence between resources and strategy is a better predictor of a firm's performance (financial as well as marketing) than its strategy profile alone and that its resource endowment alone.

The difference between financial reference strategy and marketing reference strategy

Hypothesis 3 states that for a firm with a given resource endowment, the reference strategy leading to superior financial performance is likely to be different from the reference strategy leading to superior marketing performance. The positions of the reference strategies for the four resource configurations for financial and marketing performances are shown in Table 5. The Euclidean distance between the marketing and financial reference strategies is .502 for Marketing Technology Innovators, .885 for Generalists, 1.081 for Marketing Specialists, and 1.581 for Technology Specialists. Given the size of our sample, there is no formal test to evaluate the probability that these distances are different from zero. However, they seem large enough to give support to Hypothesis 3.

Since our results show that the strategies that produce superior marketing performance and strategies differ from those that produce superior financial performance we proceed to a more detailed investigation of the resource-strategy correspondence explanation of performance differences.

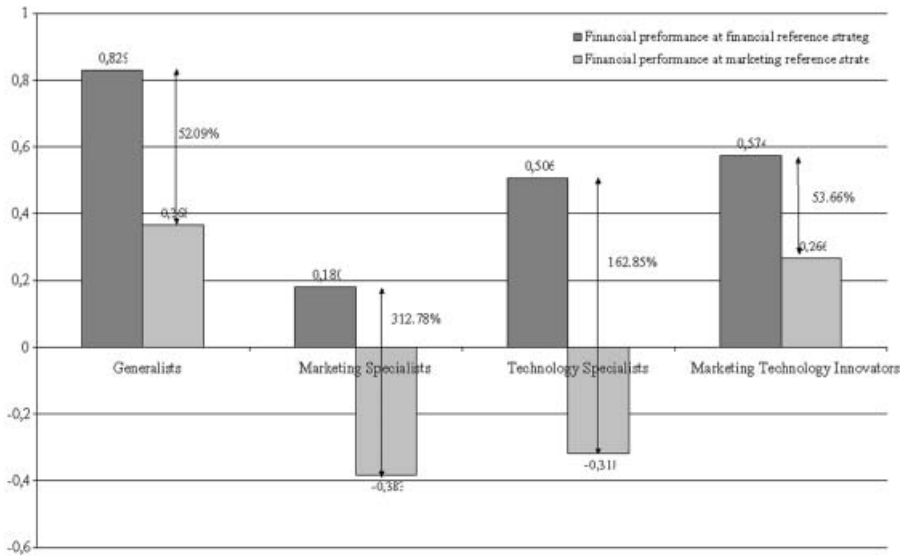
Opportunity costs to achieving marketing performance at the expense of financial performance

The next question is: What is the trade-off between focusing on marketing and financial objectives? The issue is to evaluate the loss of financial performance (opportunity costs) for a firm reaching its marketing reference strategy as well as the loss of marketing performance for a firm reaching its financial reference strategy. We use the model given by Equation 1 to evaluate these opportunity costs. The results are graphically presented in Figure 2.

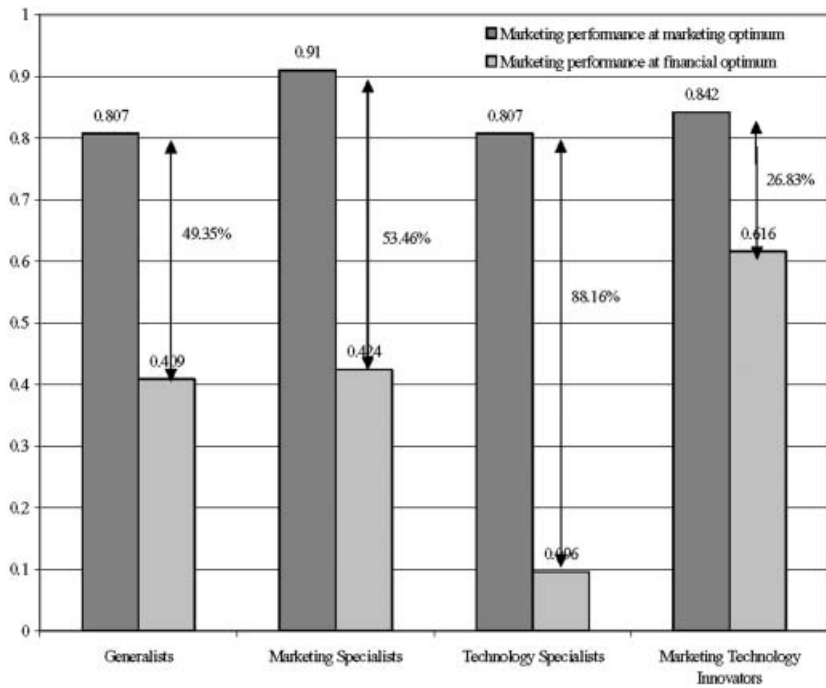
The opportunity costs in terms of marketing performance are relatively similar across resources configurations. However, they vary considerably across resource configurations in terms of financial performance, with the largest difference being between Generalists (highest) and Marketing Specialists (lowest).

In the context (industry and the time period) of our study we have developed a way to investigate the resource-strategy explanation of performance differences and to show the trade off between the pursuit of marketing objectives as opposed to financial objectives.

Next, if we assume that the resource bundle of a firm is given, then we can interpret the performance consequences of its strategy. Let us consider the impact of pursuing marketing reference strategies. From Figure 2, in absolute terms, Marketing Technology Innovators will suffer the least financial performance opportunity cost (.308), followed by Generalists (.461), Marketing Specialists (.563), and Technology Specialists (.824). If viewed in percentage terms, Generalists will suffer the least financial performance opportunity cost (52.09%), followed by Marketing Technology Innovators (53.66%), Marketing Specialists (162.85%), and Technology Specialists (312.78%). From Figure 2, in absolute terms, Marketing Technology Innovators will



a



b

Figure 2a. Opportunity costs in terms of financial performance

Figure 2b. Opportunity costs in terms of marketing performance

suffer the least marketing performance opportunity cost (.226), followed by Generalists (.398), Marketing Specialists (.486), and Technology Specialists (.711). If viewed in percentage terms Marketing Technology Innovators will suffer the least marketing performance opportunity cost (26.83%), followed by Generalists (49.35%), Marketing Specialists (53.46%), and Technology Specialists (88.16%). These opportunity costs may be substantial.

The results indicate that there is a trade-off between financial and marketing performance across all resource configurations. A Generalist is likely to exhibit the most robust strategy in terms of opportunity costs. In other words, pursuit of one objective has the least negative effect on the other objective. This finding is consistent with the managerial observations by Sheth and Sisodia (2002) in several industries. On the other hand, a Technology Specialist is likely to exhibit the least robustness. Thus, there is a clear need for managers with specialist resource bundles to be particularly careful in selecting the right objectives and the commensurate strategy. Choosing to target superior marketing performance may lead to a considerable opportunity loss in financial performance. The results would imply that firms that build resource bundles that allow them to be Generalists will dominate in the long run, as they provide the most robust strategies.

In closing, the opportunity costs of pursuing one objective as opposed to another are dependent on the resource bundle, as suggested by the resource-strategy correspondence explanation.

DISCUSSION AND CONCLUSION

We have empirically shown that a firm's performance is a function of the degree of correspondence between its resource endowment and its strategy profile. In the Marketing Technology Industry, we identified four configurations of firms with different resource endowment (Generalists, Marketing Specialists, Technology Specialists, and Marketing Technology Innovators). For each of these configurations, we determined the position of a reference strategy position in a four-dimensional space (the four dimensions being: Innovation, Cost, Marketing Differentiation, and Focus) and showed that a firm's performance is inversely proportional to the distance between its actual strategy position and the position of this reference strategy. Furthermore, we showed that a strategy designed for superior financial performance is likely to be different than a strategy designed for superior marketing performance. We also showed that the opportunity cost of focusing on one performance objective rather than another can be imputed, and that the opportunity cost is a function of a firm's resource bundle. Thus we have answered the three questions raised in the introduction.

The choice of objective of focus

As previously stated, recent research in marketing has advocated the use of financial performance measures to evaluate marketing strategies (e.g., Barwise *et al.*, 1989; Day and Fahey, 1988; Lane and Jacobson, 1995; Srivastava *et al.*, 1998, 1999; Sudharshan, 1995). However, many firms choose to pursue other types of objectives. There are several reasons for the objective chosen:

1. The recommendation contained in the traditional marketing concept (e.g., Levitt, 1960), which is, 'the idea that an organization should aim *all* its efforts at satisfying its *customers*—at a profit' (McCarthy and Perreault, 1993, p. G7, original emphases). This view stresses the importance of marketing objectives such as customer satisfaction.

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2. Organizational behaviorist researchers (Cyert and March, 1963; March and Simon, 1958) have also emphasized that firms are composed of managers who have conflicting goals. Following this coalitional view of the firm, Thompson (1967) introduces the concept of ‘dominant coalition’ to account for variations in the power of various units to define situations, propose solutions, and influence the strategic direction of the firm (Anderson, 1982; Day and Wensley, 1983; Homburg, Workman and Krohmer, 1999).
 3. Hambrick and Mason (1984) have shown that strategic choices and performance levels are partially predicted by managerial background characteristics. Smith and White (1987) also showed that a firm’s strategy is linked to the career specializations of CEOs. Managers, representing various functional areas, are likely to perceive a strategic decision from perspectives that originate in different functional subcultures, different beliefs about desired ends and their means to achievement, and different self-identities and self-interests (e.g., Deshpandé and Webster, 1989; Ruekert and Walker, 1987). Marketing managers, trained in the marketing concept, are therefore more likely to prioritize strategy orientations toward marketing objectives than toward financial ones. Firms with strong marketing assets are more likely to have a top management team with a strong managerial background in marketing (Paşa and Shugan, 1996) and firms with strong technological or financial assets are more likely to have a top management team with a strong engineering or financial background (Fligstein, 1987).

Firms pursue strategies because of the values and internal political processes of their dominant coalitions but also because of their assessments of their relative strengths and weaknesses (Andrews, 1971; Hambrick, 1981). The literature suggests that because of the bounded rationality of their managers: (1) firms with strong marketing asset endowments are better suited to focusing on marketing performance objectives; and (2) firms with a strong technological and financial asset endowment are better suited for focusing on financial performance objectives. The above suggestion in the literature is also borne out by our data as discussed below.

We evaluate the respective probabilities for firms belonging to each of the resource configurations of having above average performances. The probability of having an above average performance (AAP) for a firm belonging to Configuration n is calculated by the following formula:

$$\text{Pr} .(\text{AAP}|\text{Configuration } n) = \frac{\text{Number of Configuration } n \text{ Members with AAP}}{\text{Total Number of Configuration } n \text{ Members}} = \frac{N_n^+}{N_n} \quad (2)$$

Table 6 shows that the probability of being an above average performer in terms of financial performance is not much different from that of having an above average marketing performance for both Marketing Technology Innovators and Generalists. However, Technology Specialists have a higher probability of being above average performers in terms of financial performance than in terms of marketing performance and Marketing Specialists have a higher probability of being above average performers in terms of marketing performance than in terms of financial performance. These findings support the strength-performance objective choice argument in the literature.

The results shown in Table 6 may also be viewed as representing an alternative computation of strategy robustness by resource bundle. The results presented in Figure 2 showed robustness in terms of absolute and percentage measures of opportunity costs. Table 6 provides a measure of robustness in terms of probability of above average performance. From Table 6 it may be seen that Generalists and Marketing Technology Innovators have approximately equal (and relatively high)

Table 6. Conditional probability of having an above average performance

	Conditioned on belonging to Resource Configuration			
	<i>Generalists</i>	<i>Marketing Specialists</i>	<i>Technology Specialists</i>	<i>Marketing Technology Innovator</i>
Probability (Above average financial performance)	.500	.250	.500	.579
Probability (Above average marketing performance)	.500	.429	.250	.526

probabilities of above average performance for both objectives. In other words, their performance remains robust across performance objectives. The other resource bundles, i.e., Marketing Specialists and Technology Specialists do not exhibit such robustness. Regardless of how robustness is measured (in terms of opportunity costs or probability of above average performance) Generalists and Marketing Technology Innovators are the most robust. This multi-measure convergence of the robustness of Generalists and Marketing Technology Innovators allows us to suggest that these two resource bundles are dominant resource positions.

Limitations and future research

Our research was set in one industry at one period in time. The response rate (due partly to the frenetic activity in the industry we studied we think) to our survey, though comparable to similar studies, was on the lower side.

Our research opens the way for further research. Empirical research should focus on the generalization and triangulation of our findings. We tested our hypotheses in the context of one industry; other industries should also be investigated to assess the robustness of our findings. Our hypotheses have only been tested in a particular environment: The one of a new growing industry. Further research should tests our hypotheses in other environment settings to evaluate the impact of environment on the relationships we established.

A broader set of measures for operationalizing resources, strategy, and performance may be used to generalize our findings. While we used a cross-sectional survey, a longitudinal study could be used to differentiate the effects of the degree of correspondence between resources and strategy on long-term and short-term performance. Different source of data may also be used to improve the reliability of the measures, for example, primary self-reported data may be complemented by secondary data. The role of the environment should also be carefully investigated longitudinally. In particular, how the environment-resources-strategy-performance fit evolved over time through the different phases of the industry life cycle.

From a theory-building standpoint, it would be important for further research to study the relationships between strategy and some specific types of resources. Which resources (e.g., intangible vs. tangible) are more likely to lead to better correspondence? The resource-based theory argues that sustainable competitive advantage can be achieved only when resources are valuable, rare, cannot be imitated, and have no substitutes (Barney, 1991; Grant, 1991; Peteraf, 1993). Furrer *et al.* (2001) argue that the only resources to have these characteristics are those that are intangible. Among the various resources that a firm possesses, further research should identify

those that are salient and those that are determinant (Alpert, 1971). The dynamics of our framework also need to be investigated further. How do feedback and learning influence the modifications and adjustments between resource endowment and strategic orientation?

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NOTES

¹ The term 'strategic choice' is used here in the same way as it is by Child (1972) and Hambrick and Mason (1984). It is intended to be a fairly comprehensive term to include choices made formally and informally, indecision as well as decision, major administrative choices as well as the domain and competitive choices more generally associated with the term 'strategy'. Strategic choices stand in contrast to operational choices.

² Other potential reference strategies (industry average, configuration average, median of industry above average) were tested, but the median strategy position of the above average members of each resource group gave the best results in terms of model performance. We are aware that using the best performer to model performance may be viewed as a tautology. However, we are not saying that the best performer is the best performer because it is the best, we are only showing how the performance of other firms can be explained better by using the position of the best performer as an estimate of the heuristic optima.

³ R_r^2 is the raw-moment version of R^2 recommended by Aigner (1971) for zero intercept regressions.

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