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ANTECEDENTS AND CONSEQUENCES OF MARKETING EQUITY

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MAKING INTANGIBLES TANGIBLE: ANTECEDENTS AND CONSEQUENCES OF MARKETING EQUITY

By

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ABSTRACT

MAKING INTANGIBLES TANGIBLE:
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By

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Our understanding of the interface between marketing outcomes and financial performance has just begun. In fact, though recent research has explored these relationships to some degree, we lack a comprehensive framework that is based on proven theoretical underpinnings and responds to the need for marketing activities to be financially justifiable. As part of this move toward financially justifiable marketing studies, this study introduces the notion of marketing equity – or, ownership in the marketplace provided by the marketing function. Based on studies related to customer satisfaction, brand equity, and corporate reputation, the analysis here provides and tests a model of cross-functional marketing resources that may influence marketing equity and financial performance.

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CHAPTER ONE

INTRODUCTION

"Not everything that can be counted counts, and not everything that counts can be counted."
– Albert Einstein (1879-1955)

Recently, scholars have begun to explore the conceptual and empirical underpinnings of the relationship between marketing and finance (Hyman and Mathur 2005; Moorman and Rust 1999; Rust et al. 2004). In fact, in doing so, opportunities are being set forth for scholars to assess the financial relevance of the marketing function in firms. In discussions concerning the strategic readiness of a firm's intangible assets (Kaplan and Norton 2004) or findings concerning the importance of customer satisfaction in increasing shareholder and market value (Anderson et al. 2004; Fornell et al. 2006), the financial imperative facing marketing researchers is apparent. For example, Rao et al. (2004) speculate that a corporate brand strategy may be best for firms aiming to maximize their overall value.

An equally important component of the marketing process is the level of creativity and innovation that a firm can create (Andrews and Smith 1996; Chandy and Tellis 1998, 2000; Sorescu et al. 2003; Wuyts et al. 2004; Zhou et al. 2005). Innovation has been analyzed in a variety of ways. These include: consequences of innovation and profitability in interfirm agreements (Wuyts et al. 2004); innovation, organizational learning, and market orientation (Hurley and Hult 1998); strategic business unit (SBU) level innovation (Zhou et al. 2005); and the financial valuation of different types of innovations themselves (Sorescu et al. 2003). In work paralleling the innovation stream

of research but focusing on more traditional marketing functions, the relevance of creativity in marketing programs (Andrews and Smith 1996) as well as its relation to both new product development and financial success have also been pursued (Im and Workman 2004).

Some previous attempts have been made to introduce financially-based concepts to industries with different marketing characteristics in the literature (e.g., Mizik and Jacobson 2003). However, the marketing function has been constricted by the notion that financial and accounting measures are incapable of capturing basic marketing principles. For instance, the innovation and related concepts described above refer to tangible and intangible assets that are "lumped [together] by accountants under the heading of goodwill and include things such as patents, trademarks, and licensing agreements, as well as "softer" considerations such as the skill of the management and customer relations" (Keller 2003, p. 493).

At the same time, extensive research projects have taken place in the finance and accounting literatures to attempt to relate a firm's assets and expenses as proxies for both tangible and intangible assets to performance. An alternative hegemony of measurement to real options valuation, the valuation of a firm's intangibles by the level of opportunity related to the investment can give a more exact analysis of "the vast array of discretionary expenditures available to support growth options" (Gaver and Gaver 1993, p. 132). While financial measures have been used in a limited way in the marketing literature (Mizik and Jacobson 2003; Rao et al. 2004; Wuyts et al. 2004), a comprehensive assessment of financial measures driven by marketing concepts has yet to be accomplished. Consequently, this study's overarching goal is to fill the gap in the

literature involving interrelationships among intangible and tangible technological and marketing resources, intermediate marketing outcomes, and financial performance consequences.

The focus of this study is supported by a number of recent studies. For example, a recent meta-analysis by Daniel et al. (2004) concluded that intervening variables between slack (e.g., inventory) and financial performance has yet to be studied effectively. The topic of resource slack has begun to be discussed in the marketing literature. Based on discussions in the management literature (Bourgeois 1981), its relevance has been highlighted in analysis of intangible resources (Slotegraaf et al. 2003). In fact, resource slack of the firm has been found to be better able to develop its knowledge of customers (Joshi and Sharma 2004). However, in attempting to relate resource slack to financial performance, a negative association has resulted (Lee and Grewal 2004). This indicates that the relationship between slack and financial measures may be influenced by other factors not yet studied in an integrative framework. As such, the first major contribution of this study is to assess comprehensively these mediating marketing variables.

In addition, the present study attempts to resolve an apparent conflict that has emerged in the literature by taking a more wholistic approach to resource allocation in the firm. Specifically, in a comparison between intangible marketing (e.g., brands, trademarks, etc.) and intangible technological (e.g., intellectual property, patents, etc.) resources, recent findings indicate that intangible marketing resources are more important in nearly all sizes of firms except those with massive amounts of financial resources (Slotegraaf et al. 2003). This finding would imply that only the very largest firms would find greater value in intangible technological resources. However, in a recent cross-

industry survey of practitioners from large and small firms in the health, technology, and industrial sectors, intangible technological resources were consistently considered of higher importance than intangible marketing resources (Razgaitis 2005).

These contradictory findings point out a disparity in the literature as to the importance of intangible marketing and technological resources. An explanation for such results may be the cross-functional nature of intangible resources. Posited as important in the emerging discussion concerning the strategic assessment of business practices (Vargo and Lusch 2004), cross-functional coordination has been found to increase responsiveness (Hult et al. 2005) as well as new product and marketing program creativity (Im and Workman 2004). In fact, recent literature has indicated the importance of cross-functionality in the development of customer knowledge for new product development teams (Joshi and Sharma 2004), cooperative and competitive interactions between marketing and other functions (Luo et al. 2006), competence exploration and exploitation for radical innovation performance (Atuahene-Gima 2005), and reductions in preannounced product introductions (Wu et al. 2004).

Thus, rather than categorizing a firm's resources as only technology- or marketing-based, this study presumes that the resources included in the model to be tested have elements based in both technology and marketing. However, some firm resources in the present study's model are more closely associated with technology (e.g., R&D intensity, Star scientist index, etc.) while other resources are more closely associated with marketing (e.g., Intangible assets, Sales, general, and administrative expenditures, etc.). As such, a second major contribution of this study is to develop a

typology of both intangible technological and intangible marketing resources to assess their combined influence on marketing outcomes and financial performance.

CHAPTER TWO

THEORETICAL UNDERPINNINGS

"The moment a person forms a theory, his[/her] imagination sees in every object only the tracts which favor that theory."
– Thomas Jefferson (1743-1826)

There are three streams of research on which this project will be based: the resource-based view (e.g., Barney 1991; Wernerfelt 1984), market knowledge competence (e.g., Li and Calantone 1998), and strategic choice (e.g., Child 1972; Child et al. 2003). The amalgam of these three theories provide for both an overlapping and synergistic foundation to explain the phenomena studied as well as the linkages in the developed model that represent the research hypotheses. Each of the three theories is introduced next to set the foundation for the subsequent hypothesis development.

RESOURCE-BASED VIEW

Throughout this study, the notion of resources will follow the tradition set forth by Barney (1991) and Peteraf (1993). Within this line of reasoning, resources must create or generate differential rents such that the firm may have a competitive advantage in the marketplace. As such, the study of firm utilization of resources, using the resource-based view (RBV – Barney 1991; Wernerfelt 1984), in the marketing literature can be categorized into four groups: 1) resources and responsiveness; 2) resource control; 3) resource input and performance; and 4) resources and competitors. Though covering a variety of topics within the field of marketing, these topics have a common focus in that they address the importance of firm resources and capabilities in gaining an advantage in

the marketplace (e.g., Hunt 2000). In particular, the latter two topics – resource input and performance and resources and competitors – apply effectively to the focus of this study, i.e., the intellectual property process generating a competitive advantage for the firm. For completeness, all four groups are discussed below to distinguish their relative importance.

Resources and Responsiveness

Few researchers have devoted efforts to discussing the specific relationship between firm resources and overall responsiveness (Jap 1999; Srinivasan et al. 2002). Defined as the proactive response by the firm to new opportunities not violating principles of fairness, Srinivasan et al. (2002) found that top management's advocacy of new technologies heighten awareness within the firm to new technological opportunities to be used by the firm. This, in turn, leads to a response by the firm to react to and utilize technological developments occurring in the marketplace, thus enhancing the firm's resource base for future usage. Another topic receiving scant attention has been Jap's (1999) focus on collaborative exchange in a buyer-supplier dyadic relationship. Resulting from a combination of environmental factors, goal congruence, complementary capabilities, and trustworthiness, Jap (1999) set forth that the coordination efforts and idiosyncratic investments made by each firm in such a relationship become part of its resources and capabilities. In addition, these relation-specific resources were found to influence profit performance and competitive advantages unattainable without the relationship (Jap 1999).

Resource Control

In contrast, the topic of resource control has found more interest in the field of marketing. It consists of two subsets: 1) acquisition and integration; and 2) market deployment (Capron and Hulland 1999; Homburg and Bucerius 2005; Slotegraaf et al. 2003; Varadarajan et al. 2001). Pursued originally in Capron and Hulland's (1999) analysis of resource redeployment after horizontal acquisitions, three marketing resources were posited as being subject to redistribution between the targeted and acquiring firms: brands, sales forces, and general marketing expertise (GME). Extending this issue, Homburg and Bucerius (2005) found that, after a merger or an acquisition, the extent and speed of integration between firms is important in determining the successor firm's performance.

While considered a subset of the resource control category of the RBV, the issue of market deployment, as discussed by Slotegraaf et al. (2003), is more applicable to the present study than studies addressing acquisition and integration of marketing activities between firms. Slootegraf et al.'s study pursued the market deployment effectiveness of intangible marketing (e.g., brand equity) and intangible technological (e.g., patent stock) resources in a consumer products setting (Slotegraaf et al. 2003). After testing for results in both distribution and coupon deployment, findings indicated that an increased accumulation of overall financial resources to each condition brought higher returns to the deployment initiative (Slotegraaf et al. 2003).

Resource Input and Performance

Addressing specifically the internal attributes of the firm, the theme of resource input and performance was originally conceptualized in the marketing literature by Day (1994). Forwarding that resources (be they brand equity, location, or other assets) lead to positions of advantage, Day (1994) stated that this relationship may be partially mediated by the capabilities and core competencies of the firm, but also the distinctive capabilities that result from such an internal integration and application of knowledge. Referred to as the firm's innovation effort (Marinova 2004), the resulting capabilities, competencies, and positions of advantage lead to enhanced performance (Day 1994; Hult and Ketchen 2001).

A similar approach is taken in studies adopting an emphasis on input-output process and results models (Dutta et al. 1999; Thieme et al. 2000). Though Thieme et al. (2000) posited that a "hidden layer" of internal capabilities mediated the relationship between the "input layer" and "output layer" of the new product development (NPD) process, the essence of raw resources undergoing conversion within the firm to capabilities which, in turn, result in performance, remains relevant to this study. A similar statement was made concerning a model by Dutta et al. (1999) addressing firm capabilities and performance. With marketing, R&D, and operations acting as antecedents to demand- and supply-side effects in the marketplace, a resulting increased performance (a transformed function of firm sales) was found. More exactly, marketing-specific resources (e.g., marketing expenditures) led to marketing capabilities in the study while R&D capabilities resulted from R&D-specific resources (e.g., R&D expenditures) (Dutta et al. 1999).

Resources and Competitors

Resources and competitors as a scholarly contribution begins with Day and Wensley's (1988) conceptual approach to the elements of competitive advantage. They differentiate between competitor-focused and customer-focused positions of superiority. Stating that a firm's sources of advantage typically come from superior resources and skills, their conceptual view holds that positional advantages (e.g., superior customer value, lower relative costs, etc.) result in and subsequently influence a firm's performance outcomes (e.g., satisfaction, loyalty, market share, profitability, etc.) (Day and Fahey 1988; Day and Montgomery 1999; Hult and Ketchen 2001).

Day and Wensley's (1988) conceptualization is mirrored in other conceptual works. In their framework addressing the services sector, Bharadwaj et al. (1993) posited that the accumulation of resources and skills creates imitation barriers, thus transforming a temporary positional advantage into a much more sustainable positional advantage. However, the importance of these resources and skills is not merely in their accumulation, but in the gaining of efficiencies within the firm due to the interconnectedness of its stock of resources and skills (Bharadwaj et al. 1993).

Recent qualitative extensions in relation to the RBV have also been pursued in the marketing literature (Johnson et al. 2003; Srivastava et al. 1999). In their discussion concerning marketing, business processes, and shareholder value, Srivastava et al. (1999) introduced two novel concepts applicable to product development and firm resources. First, to enhance cash flows, the conditions of striving for value and product differentiation, obtaining customer inputs, sharing modular designs across products, and

acquiring or licensing technology were forwarded as important business processes to pursue (Srivastava et al. 1999). Second, Srivastava et al. (1999) stated that, to reduce risk – and, subsequently, decrease vulnerability to volatile cash flows – firms must increase their rates of innovation, design products difficult to imitate with a unique product and/or service bundling, and maximize synergies across product portfolios. By creating conditions under which competitors find reproduction of a firm's seemingly innovative product and/or service line complex, a sustainable competitive advantage is more likely (usually as a function of firm-specific idiosyncrasies).

Paralleling earlier work by Day and Wensley (1988) that posited that capabilities may result from endowments focusing on customers and/or competitors, Johnson et al. (2003) introduce the notion of strategic flexibility. With application of the market orientation literature to justify strategic flexibility as a capability (Kohli and Jaworski 1990; Narver and Slater 1990), Johnson et al. (2003) argue that the mediating role of such a construct influences short- and long-term performance outcomes. Basing their argument on a firm's intent rather than outright actions per se, this initial momentum leads the firm to identify, acquire, and/or develop a resource portfolio that gives it strategic options for future positioning (Johnson et al. 2003; Olson, Slater, and Hult 2005).

The focus on resources and competitors has been addressed empirically in a number of studies. For example, the influence of resources and capabilities on performance has been studied in exporting and marketing strategy contexts (Menon et al. 1999; Morgan et al. 2004; Slotegraaf and Inman 2004; Vorhies and Morgan 2005; Zou and Cavusgil 2002). Morgan et al. (2004) found that resources available for an export venture influenced the capabilities of such a venture, but also impacted the venture's

competitive strategy. This, in turn, led to positional advantages in the export market and – eventually – the performance of the export venture (Morgan et al. 2004). Also, Zou and Cavusgil (2002) found support for the premise that intangible resources and skills associated with the firm's international experience (as a representation of intrinsic expertise) and global orientation (as a manifestation of organizational culture) drive global marketing strategy, strategic marketing performance, and financial performance. In addition, Menon et al. (1999) empirically established that an organizational culture emphasizing either centralization or innovation impacts marketing-strategy-making components closely linked to the RBV (e.g., strategic resource commitment). Considered an actionable endowment of the firm, strategic resource commitment was also found to influence organizational learning and market performance (Menon et al. 1999).

More recent studies have sought to extend the basic tenets of the RBV with comparisons of ideal competitive strategies and the effectiveness of marketing planning capabilities (Slotegraaf and Inman 2004; Vorhies and Morgan 2005). By identifying specific marketing capabilities to benchmark top performers in their cross- and within-industry study, Vorhies and Morgan (2005) found that deviations from an ideal mix of marketing capabilities diminished firm performance on a number of performance measures (e.g., customer satisfaction, market effectiveness, profitability, return on assets). Analogous to the ability of the firm to sense and subsequently respond to technological opportunities in the marketplace after encouragement by top management (Srinivasan et al. 2002), it can be inferred from Vorhies and Morgan's (2005) study that a firm's multi-component construct of marketing capability interdependence influences

firm performance. In other words, firms that are able to sense and respond more readily to market conditions generally outperform those lacking such skills.

Slotegraaf and Dickson (2004) extended the study of marketing plan capabilities as an internal resource. Their study suggests more directly than previous works that the influence of marketing planning capabilities (defined generally as the firm's ability to match resources to demands in the market) on firm performance (in both a profit and brand equity context) is curvilinear (i.e., an inverted U-shape). While support for this notion was found in the brand equity model, the diminishing returns of marketing plan capabilities posited for the profit model was not supported (Slotegraaf and Inman 2004). Taken the application of a transformed function of firm sales by Dutta et al. (1999) as an indication of increased performance, this provides an indication that future applications of marketing-based endowments and capabilities utilizing an RBV perspective may not find similar results when comparing brand- and profit-oriented measures.

MARKETING KNOWLEDGE COMPETENCE

Based on results from the U.S. software industry, a basic tenet of market knowledge competence (MKC) is that the interface between marketing and research and development (R&D) influences new product advantage which, in turn, influences market performance (Li and Calantone 1998). Similar findings have been found among Japanese firms where cross-functional integration and product competitive advantage influencing new product success was the focus (Song and Parry 1997). Cross-functional integration was also found to increase new product and marketing program creativity, both of which subsequently influenced performance outcomes (i.e., market-, financial-, and qualitative-

based outcomes) (Im and Workman 2004). In addition, cross-functional integration has been found in a multinational computer manufacturer to foster stronger relational norms, perceived effectiveness, and new product success (Ayers et al. 1997). Interestingly, research findings have also suggested that cross-functional teams are more important in new product development projects that involve potential innovations that are less familiar to the firm (Griffin 1997).

On a somewhat related note, with multiple antecedents (formalized and clannish administration, mutual dependence, and institutional support) the construct of cooperative competency has also been found as important in new product success (Sivadas and Dwyer 2000). This finding runs contrary to the findings that social cohesion is negatively related with innovativeness at the product development level (Sethi et al. 2001). In fact, the discussion of inter-functional communication and cooperation involving the marketing function has been in the literature for quite some time, with a relatively large literature base having been formed. An early discussion of the interface between marketing and R&D proposed five approaches that could facilitate the process (Berenson 1968): increasing inputs to R&D; developing better R&D consumption systems; changing organizational forms; improving communication between marketing and technical groups; and optimizing the mix between basic and applied research.

At the product development level, the strength of team identity, the encouragement to take risks, and active monitoring by senior management all appear to influence innovativeness (Sethi et al. 2001). Extending this further, the degree of integration between R&D and marketing have been suggested to require both individual and organizational factors (Gupta and Raj 1986). The primary individual factor

influencing the possible integration between these two functions according to Gupta and Raj (1986) is the sociocultural differences between a firm's managers in R&D and marketing. The organizational factors that appear important are overall firm structural characteristics, senior management, and operating characteristics between R&D and marketing (Gupta and Raj 1986).

However, the differences in perspective between different functional groups may be behind the importance – yet difficulty – in appropriately integrating marketing and R&D at the project or firm level to enhance performance. In a comparison of marketing, organizational, engineering, and operations perspectives, typical performance measures differ between marketing (fit with market, market share, consumer utility, profits) and engineering (form and function, technical performance, innovativeness, and direct cost) (Krishnan and Ulrich 2001). Krishnan and Ulrich (2001) also indicate that the critical success factors of marketing (product positioning and pricing, collecting and meeting customer needs) and engineering (creative concept and configuration, performance optimization) can have a profound influence in how these two functional groups communicate.

The marketing function also tends to perceive that the R&D function does not require influence in the organization to enhance performance in the new product development process (Atuahene-Gima and Evangelista 2000). However, Atuahene-Gima and Evangelista (2000) also indicate that the R&D function perceives that marketing must have organizational influence to contribute to new product success. This places marketing at the forefront in importance in a firm's achievement of potential product success. Meanwhile, in a study of SBUs among high-technology industrial equipment

manufacturers, the number of mechanisms used to reduce inter-functional conflict between marketing, manufacturing, R&D, and finance did not improve relations (Maltz and Kohli 2000). However, Maltz and Kohli (2000) also found that the use of cross-functional teams for decision making purposes appeared to reduce manifest conflict.

A similar approach used to accomplish communication and conflict reduction is Quality Function Deployment (QFD) (Griffin 1993; Griffin and Hauser 1992). In fact, with its expressed intent on customer satisfaction, findings suggest that QFD increases communication levels between the functions of marketing, engineering, and manufacturing (Griffin and Hauser 1992). As a result, Griffin and Hauser (1992) find that these functions (also called the core team) communicate less with those external to the core team. Depending on the information available to the core team, this can be good (if it has adequate information) or bad (if it does not) (Griffin and Hauser 1992). As such, customers are clearly more likely to be satisfied if the products are designed based on the traits deemed important to customers (Griffin 1993).

In addition, there is a strong sub-component of innovation and product development research that is devoted to the concept of slack. In a study focusing on the notion of slack and innovation, an inverse-U shaped relationship was found among 264 functional departments in two multinational corporations (Nohria and Gulati 1996). At the same time, resource constraints (not resource slack) were found to enhance performance among privately-held firms (George 2005). In a series of studies in China, the influence of slack on general firm performance was also found to have an inverse-U relationship (Tan and Peng 2003). In fact, Tan and Peng (2003) also conclude that – at least in the transitional economy setting of China – unabsorbed slack positively

influenced financial performance while absorbed slack negatively influenced financial performance (Tan and Peng 2003).

For more generalizable results, however, a meta-analysis found a positive relationship between all three types of slack (available, recoverable, and potential) and financial performance (Daniel et al. 2004). In fact, while lagged slack measures did not show any improvement in the relationship between slack and performance, controls used for industry-relative performance demonstrated stronger positive influence of potential slack on performance (Daniel et al. 2004). This finding can be used to support the notion put forward in the RBV literature that studies comparing relative (rather than absolute) performance of firms is a better test of the RBV (Ray et al. 2004; for an interesting discussion on the use and testing of the RBV, see Lado et al. 2006).

In summary, the discussion concerning measurement of research, development, and engineering (R,D&E) indicates that a more comprehensive approach should be employed. Based on interviews with top executives, more direct measures of research effort (e.g., citations, patents, citations to patents, etc.) should be used (Hauser 1998). In addition, rather than using an approach characterized as "best people," better performance may result from "research tourism" which emphasizes knowledge and research spillovers from universities, other industries, and competitors (Hauser 1998).

STRATEGIC CHOICE

Beginning with the conceptual framework established by Child (1972), the research stream focusing on strategic choice is equally applicable as a theoretical underpinning for this study. As such, there appear to be four main tenets of this

theoretical approach: 1) competitive strategies reflect the choices of managers; 2) also akin to the RBV, emphasis on the link between managerial competence and strategy; 3) the effectiveness of strategic decision making on organizational performance; and 4) the importance of the dominant coalition in developing organizational strategy as manifest through resource allocations (Child 1972; Child et al. 2003).

As with the implementation of any strategy at any level, the testing of different components of top managers' power led to a methodology that included four facets: structural power, ownership power, expert power, and prestige power (Finkelstein 1992). As such, in a sample of Fortune 500 firms, companies were more likely to conduct corporate strategic change if top managers were of lower average age, higher team tenure, higher education level, higher education specialization heterogeneity, and higher academic training in the sciences (Wiersema and Bantel 1992).

In addition to the competitive strategies of architectural woodworking firms, the competencies and motivations of CEOs in this industry were directly associated with venture growth (Baum et al. 2001). Thus, manufacturing flexibility may have been a driving force in such decisions (Gerwin 1993).

The dynamics of decision making have also been discussed in this literature stream. In a conceptual framework focusing on institution transitions in emerging economies characterized as shifting from relationship-based to rule-based strategies, such an emphasis (on rule-based strategies) should be particularly strong at the regulative, normative, and cognitive levels in late phases of economic transitions (Peng 2003).

Such changes – as well as others – can result in relative levels of conflict, dysfunction, and turmoil in an organization. Among food-processing and furniture

manufacturing firms, cognitive conflict was found to improve decision quality while affective conflict degraded decision quality (Amason 1996). As such, greater past success tended to influence a greater strategic persistence after radical environmental change, thus inducing performance declines in the airline and trucking industry (Audia et al. 2000). In a series of related experimental studies, such dysfunctional persistence was found to be a result of greater satisfaction with past performance, more confidence in correctness of current strategies, higher goals and self-efficacy, and less information-seeking from critics (Audia et al. 2000).

An extension of the original approach set forth by Child (1972), the strategic archetypes forwarded by Miles and Snow (1978) have been acknowledged as directly applicable to this stream of research (Matsuno and Mentzer 2000; Mizik and Jacobson 2003; Olson et al. 2005). Introduced and tested quite early as a typology relevant to the field of marketing (McDaniel and Kolari 1987), four characterized business strategies are identified by prominent researchers with this emerging approach to strategic marketing: prospectors, analyzers, low-cost defenders, and differentiated defenders (Matsuno and Mentzer 2000; Miles and Snow 1978; Noble et al. 2002; Olson et al. 2005; Webster 1992; Vorhies and Morgan 2003). In essence, prospectors aim to locate and leverage new opportunities in the marketplace, defenders attempt to cordon a part of the market to establish a stable clientele, analyzers seek to cautiously follow prospectors into new markets while protecting their current base clientele, and reactors have little consistency in their strategic approach.

As the Miles and Snow (1978) typology has been discussed in a variety of settings, some previous research relates their business strategies to the following topics:

- the general nature of competition (Carpenter et al. 1994);
- the degree of marketing strategy aggressiveness (Day and Nedungadi 1994);
- the dangers of overspecialization (Kalwani and Narayandas 1994);
- the considerations of fit between environmental opportunities and organizational skills and resources (Kerin et al. 1992);
- the development of an "organic" organizational structure (Slater and Narver 1995); and
- the choices of management styles in instances of goal incongruity (Song et al. 2000).

The implicit underpinning of this facet of discussion concerning strategic choice focusing on managerial ability to fit strategically the firm's resources and abilities to marketplace conditions. In fact, such theoretical development has led researchers to posit that the marketing function in the firm tends to become more active in other functional areas (and vice versa) in firms with higher information intensity (Glazer 1991). Also, previous conceptual work has proposed that higher levels of market turbulence tend to increase the value of decisions perceived as time-sensitive (Glazer and Weiss 1993).

However, findings in this research stream have increased its overall acceptance, as well. As such, previous research has found that heterogeneous channel environments tend to be associated with less formal procedures, decentralized decision structures, high channel participation, and more retailer control over marketing decisions (Dwyer and Welsh 1985). Stated additionally, environmental uncertainty has been found to result in increased integration, performance control, and specialization in the firm (Germain and Droge 1994).

Implicit thus far is the role of strategic choice in overall firm flexibility, the championing of organizational goals, and distinctive marketing competence. As such, in cases of strategic flexibility, findings indicate that the marketing function's influence is particularly related to differentiation strategies (Grewal and Tansuhaj 2001). In addition, the championing of product leadership as an organizational goal has been positively associated with customer knowledge development (Joshi and Sharma 2004). Thus, the marketing competence of a firm can have positive influence on many marketing functions a firm may face – including line extensions (Matsuno and Mentzer 2000) as well as leveraging local resources to develop trust between a MNC parent and its affiliates (Child et al. 2003).

CHAPTER THREE

MODEL DEVELOPMENT

"Measure what is measurable and make measurable what is not so."
– Galileo Galilei (1564-1642)

This section discusses the relevance of each construct and the theoretical underpinnings related to each construct used in the study. After the introduction of the constructs, a series of integrated hypotheses will be developed based on the amalgam of theories introduced in the previous section (i.e., the resource-based view, market knowledge competence, and strategic choice).

LITERATURE REVIEW

Lee and Grewal's (2004) definition of Tobin's Q is comprised of a variety of rapid channel response variables in an assessment of strategic responses to new technologies. However, more directly related to this study, there have been two general approaches of Tobin's Q to date in the marketing literature. The first advance generally indicates that this measure of firm value is the ratio of the market value of the firm to the replacement cost of its tangible assets (e.g., property, equipment, inventory, cash, investments in stock and bonds, etc.) (Anderson et al. 2004; Rust et al. 2004).

Resulting from its use as a measure of a firm's investment opportunities, one of the drawbacks with Tobin's Q identified in the literature is that is has been posited to have measurement error (Lu and Beamish 2004; Whited 2001). In fact, intangible resources have been discussed by Simon and Sullivan (1993) as comprised of brand equity, non-brand factors that reduce a firm's costs vis-à-vis competitors (e.g., R&D,

intellectual property, etc.), and industry-wide factors that allow value through non-marketplace forces (e.g., governmental regulation). However, recent findings indicate that this level of error is most likely an artifact of the correlation between investment opportunities and liquidity (Whited 2001). Thus, given that this study's firms – vis-à-vis small start-ups (Stickel 1985) – most likely do not suffer from excessive liquidity, difficulties with Tobin's Q are not expected.

Regardless, upon direct comparison with return on assets (ROA), some findings including Tobin's Q have been found to be relatively unstable. For instance, an analysis of persistent economic performance and sustainable competitive advantage in 40 industries indicated that firm size had a positive impact on ROA, but a negative impact on Tobin's Q (Wiggins and Ruefli 2002). Most likely not caused by inflationary influences (Lu and Beamish 2004), results from the same study were not as generalizable across industries in the model with Tobin's Q as a dependent variable (Wiggins and Ruefli 2002).

Given that Tobin's Q is inherently a forward-looking measure (Anderson et al. 2004; Rao et al. 2004; Szymanski et al. 1993), thus leading to its unpredictability, there is an alternative accounting-based measure that may account for a firm's value: intangible resources. However, this topic has been widely conceptualized and operationalized. Thus, prior to its usage in this model, a review and justification is needed.

Following a long tradition of literature concerning resources, there are typically three distinct sources of competitive advantage: physical, intangible, and financial resources (Chatterjee and Wernerfelt 1991). In fact, intangible resources have become a pivotal factor in the development and explanation of the resource-based view (RBV)

(e.g., Barney 1991). However, as acknowledged by the subjectivity of the concept, any attempt to explain the relevance of intangible resources entails significant measurement difficulties (Fiegenbaum et al. 1997; Fornell et al. 2006; Hult and Ketchen 2001; Roberts and Dowling 2002).

Though researchers have attempted to categorize intangible resources in the past (Avery 1942), perhaps the most comprehensive discussion of intangibles, as applicable to this study was in a presentation of nine distinct categories (Hall 1993). In this conceptualization, the nine categories include: 1) intellectual property (e.g., patents, trademarks, and copyrights and registered designs); 2) trade secrets; 3) contracts and licenses; 4) databases; 5) information accessible publicly; 6) personal and organizational networks; 7) the know-how of employees, professional advisers, suppliers, and distributors; 8) a product and/or company's reputation; and 9) organizational culture (e.g., ability to react to challenge and cope with change). As such, Hall (1993) states that only the first four categories can be protected through legal action. Based on these nine categories, a series of case studies in a cross-section of industries (e.g., apparel, automotive, retail, and transportation) revealed that the three most important intangibles that lead to competitive advantage were the reputation of the company and product, employee know-how, and the culture and networks of an organization.

More specific to strategic marketing, an equally wide conceptualization states that a firm's intangible resources include product development management (PDM), supply chain management (SCM), and customer relationship management (CRM) (Srivastava et al. 1999). According to this general classification, various aspects of these three tenets of intangible resources (product, channel, and customer) have been discussed in the

literature. As noted below, there are common themes found, but there is also significant variation in the multi-faceted concepts discussed to warrant listing:

- intellectual, relational, and human assets (Rousseau and Shperling 2003);
- brand, employee, and customer equity (Gupta et al. 2004);
- financial reserves, equipment, employee skills, channel equity, brand equity, and marketing expertise (Geyskens et al. 2002);
- research and development (R&D) capabilities, information technology, and brands (Aaker and Jacobson 2001);
- corporate culture, customer relationships, and brand equity (Srivastava et al. 1998); and
- equipment and buildings, reputation, and customer loyalty (Pearson and Clair 1998).

As such, there are two general types of intangible resources discussed in the literature. The first category benefits from a very fruitful literature base and focuses on internal aspects of the firm. The second category addresses elements focused externally from the firm. Though not nearly as prolific as the former category, externally focused intangible resources are nonetheless important in any discussion concerning intangible resources due to their usefulness in the marketplace to gain competitive positioning for possible sustainable growth and performance.

Intangible Resources – Internal Aspects

The most common empirical applications of intangible resources in the literature are based on advertising, marketing, and R&D expenditures (e.g., Aaker and Jacobson

2001; Fiegenbaum et al. 1997; Geyskens et al. 2002; Seth et al. 2002). In fact, focusing on the use of R&D and advertising intensity, some researchers have suggested that the firm's ability to internally develop or secure sufficient resources (as in internalization theory – Denenkamp 1995) is implicit in the use of these concepts (Denekamp 1995; Dunning 1995; Markides and Ittner 1994), thus making the internal focus of intangible resources much more focused on process-orientation than external focuses.

Independent of the way that intangible resources are valued in a company's financial statements, the most general conceptualization of intangible resources at the level of the individual is the notion of human assets (Hall 1993; Rousseau and Shperling 2003). From this, a wide variety of individual-level intangible resources in the firm have been discussed to at least some degree including: employee skills (Geyskens et al. 2002), employee processes (Gilly and Wolfinbarger 1998), employee equity (Gupta et al. 2004), implementation skills (Gruca and Suddharshan 1995), management style (Oviatt and McDougall 1994), management procedures and processes (Brown et al. 2000; Gilly and Wolfinbarger 1998), and strategic decision making skills (Szymanski et al. 1993). In addition, the creative use of managerial and management skills have even been forwarded as elements of a firm's general intangible resources (Fiegenbaum et al. 1997; Houston and Johnson 2000).

Meanwhile, at the firm-level, the general notion of corporate or organizational culture and values are sometimes considered a key intangible resource (Mosakowski 1998; Srivastava et al. 1998). As a part of this, a company's ability to develop a culture of entrepreneurship (e.g., the ability to innovate and imitate) to remain competitive is important in forwarding this notion (Im and Workman 2004; Zhou et al. 2005).

Sometimes conceptualized as a proxy for innovation (Ireland et al. 2005), others have forwarded the related concept of "intrapreneurship" (Agarwal et al. 2004; Im and Workman 2004). Pivotal in explaining the ability of a firm to harness the knowledge and understanding of lower-level actors in an organization (Achrol 1991; Hart 1992; Levinthal and Warglien 1999; Stopford and Baden-Fuller 1994), the general concept is that individual performance influences overall organizational effectiveness (Frese et al. 1996).

However, these firm-level intangible resources are sometimes difficult to measure. As such, more quantifiable notions of this general concept have also been murmured in the literature. For instance, equipment and buildings (Geyskens et al. 2002; Pearson and Clair 1998), organizational structure (Gruca and Suddharshan 1995), information technology and systems (Aaker and Jacobson 2001; Brown et al. 2000), firm processes (Brown et al. 2000; Gilly and Wolfinbarger 1998; Contractor and Kundu 1998), superior production knowledge and skills (Fiegenbaum et al. 1997; Kotabe and Swan 1994), training (Contractor and Kundu 1998), and scale and scope economies (Fiegenbaum et al. 1997; Jacobson 1988) have all been forwarded as associated to some degree with intangible resources. Underlying these notions is the ability of the firm to distinctly use these resources to its own advantage in a maximizing way. This is most clearly evident in how a firm manages its product development process, supply chain, and customer relationships (Srivastava et al. 1999).

To remedy this difficulty in measurement, some researchers have applied Tobin's Q as an appropriate proxy for intangible resources (Balasubramanian et al. 2005; David et al. 2001; Slotegraaf et al. 2003). For example, Tobin's Q has been used as a moderator in

the relationship between institutional investor activism and R&D (David et al. 2001). In their study on firm resources and market deployment, Slotegraaf et al. (2003) use Tobin's Q to measure a firm's intangible value, thus providing the basis for the indices of brand equity and patent citation. Also, in a comparison of firms awarded high-quality achievement honors, Tobin's Q was found to be a statistically significant determinant of whether a firm received the JD Power and Associates Award – a prestigious honor based on administered consumer surveys and conferred to firms ranking high on measures of product quality and customer satisfaction (Balasubramanian et al. 2005).

While some researchers may use advertising or marketing expenditures (or intensity) as a proxy for brand equity, a more exact conceptualization is that these variables are similar to the branding effort of a firm. With discussions and uses in the literature concerning marketing expertise and abilities as well as the use of the sales force to forward brands (Capron and Hulland 1999; Fiegenbaum et al. 1997; Geyskens et al. 2002), advertising and marketing expenditures capture these concepts as intangible resources nicely.

In fact, while awareness is an important component of a customer-focused concept of brand equity (Aaker 1996; Keller 2003), other aspects of the marketing process – such as research, development, and production – are also pivotal in bringing a product or service to the marketplace. When using a firm's financial statements, advertising and/or marketing expenditures frequently accomplish the final task of awareness generation – or, in other words, informing the market of an innovation or new product. This is a very important contribution to the success of the firm, but it nonetheless should not be used as a proxy for brand equity. Thus, the use of advertising

and marketing expenditures/intensity as possible proxies for brand equity will not be performed here.

The use of R&D expenditures/intensity in the literature is also well-documented, but as a measure of innovation in the firm. In fact, the notion of R&D as an intangible resource has been forwarded by many researchers. Ranging from R&D capabilities to intellectual capital (Aaker and Jacobson 2001; Hall 1993; Rousseau and Shperling 2003, 2004), R&D has been noted to capture intangible resources involved in both a firm's technological and production prowess, but also may bring the firm superior patents as a result (Fiegenbaum et al. 1997).

The application of this component of intangible resources falls into three main approaches. The first way that studies typically conceptualize R&D is as R&D expenditures, The second approach is to use a measure of R&D intensity, but to have total assets as a denominator to R&D expenditures (Fiegenbaum et al. 1997). Finally, the more common application of R&D intensity is with R&D expenditures as the numerator and total sales as the denominator (Chang 1995; Delios and Henisz 2000; Henisz and Delios 2001; Knott et al. 2003; Lu and Beamish 2004; Sharma and Kesner 1996). This study employs the latter conceptualization. Given that this study aims to standardize the resources used on R&D in the firm, the latter two approaches are more applicable to this study's context.

Related to the discussion of intangible resources, one study merged the innovation, advertising, and marketing components as previously mentioned into a single intangible construct (Seth et al. 2002). In an evaluation of value creation and destruction in the foreign acquisition of firms in the U.S., Seth et al. (2002) found that their

"umbrella" construct standardized by firm sales had an influence on the total post-acquisition gain in samples deemed synergistic (or, where the sum of two firms was greater than its parts). In parallel, another unique conceptualization of a firm's intangible resources has been as legal intensity (Denekamp 1995). Defined as the relative ability to secure and contract legal services in a study of U.S. manufacturers, Denekamp (1995) found that legal intensity had a positive relationship with a firm's foreign direct investment (FDI) in an industry. As a result, one could conclude that the more legal representation a firm has, the more confident it may be in its investment of large capital projects in specific industries.

Even more interesting in the discussion of intangible resources in the literature is the luxury a firm may have to make conditional choices (Adner and Levinthal 2004; Day and Fahey 1988; Day and Wensley 1988; McGrath et al. 2004). For example, based on a firm's financial reserves (Geyskens et al. 2002), the ability to purchase excess production capacity for competitive purposes (e.g., to heighten the required commitment for potential new entrants) can be a formidable intangible resource for large firms to use to their advantage. In essence, one could imply that any investments a firm makes – be it in celebrity endorsers, innovativeness, or brand quality – may be considered akin to an intangible resource (Agarwal and Kamakura 1995).

Intangible Resources – External Aspects

Contrasting the previous discussion related to internally-oriented intangible resources, external aspects of this concept in the literature falls into two wide and somewhat related categories: customer- and channel-related. Some customer-oriented intangible resources may be protected legally, such as a firm's brand(s) and/or brand equity (Aaker 1991; Aaker and Jacobson 2001; Geyskens et al. 2002; Gupta et al. 2004; Rao et al. 2004; Srivastava et al. 1998). However, Hall (1993) would refer to others as more dependent on people and much more difficult to protect legally, particularly quality image (Aaker 1991), customer relations (Srivastava et al. 1998), customer loyalty (Pearson and Clair 1998), and customer equity (Gupta et al. 2004).

One of the most widely channel-related intangible resources as mentioned in the literature is a firm's reputation (Aragon-Correa and Sharma 2003; Dyer and Singh 1998; Oliver 1997; Pearson and Clair 1998; Rindova et al. 2005; Rindova et al. 2006; Roberts and Dowling 2002). Though difficult to protect legally (Hall 1993), this conceptualization can include a firm's value nets or networks (Frels et al. 2003), channel equity (Geyskens et al. 2002), stakeholder relations (Godfrey 2005), relational assets (Rousseau and Shperling 2003), relations with various market players (Peng 2003), and transaction-specific assets to protect the firm's processes and management procedures (Brown et al. 2000). Recent research has even found that CRM applications tend to have a positive influence on customer satisfaction while investments in information technology have a negative influence (Mithas et al. 2005).

The preceding sections on intangible resources have attempted to summarize the categorization of intangible resources in the marketing and management literature to date. Inspired partly by previous studies relating intangible resources to specific proxies in a company's financial statements (Barth and Kasznik 1999), the next sections will focus on a related concept that allows the operationalization of some of the hitherto mentioned ideas. Thinking that it is taking its signal from literature addressing company financial statements, the marketing literature generally considers intangibles and intangible resources in the research to this point to be "lumped by accountants under the heading of goodwill and include things such as patents, trademarks, and licensing agreements, as well as "softer" considerations such as the skill of the management and customer relations" (Keller 2003, p. 493).

However, based on the concept of financial investments as opportunities in the finance and accounting literature (Gaver and Gaver 1993), the intangible value proxies (IVP) introduced here emphasize that – to have sufficient opportunities to invest in a variety of potential projects, products, and ventures – firms must take advantage of the flexibility they possess. Similar notions of this concept appearing in the management and marketing literatures include slack and excess capacity (George 2005; Geyskens et al. 2002). In essence, the skills of management and employees to utilize and implement the resources available for shepherding a product or service to market. Thus, an overview of issues supporting the concept of IVP is provided below and subsequently followed by constructs aiming to capture the elements of flexibility, slack, and/or excess capacity that the IOS literature discusses.

Intangible Value Proxies – Overview

Recent conceptual development in the marketing literature has emphasized that, in utilizing intangible resources in the firm, managers must keep in mind the financial consequences of any marketing decisions (Moorman and Rust 1999; Rust et al. 2004). This is not new, as concepts such as strategic emphasis have been explained in detail with the use of financial statements in previous marketing studies (Mizik and Jacobson 2003). As such, there is embedded in this notion an implication from the marketing literature that financial statements can be used to make inferences about intangible resources. In fact, as discussed throughout the literature related to intangibility and investments, the use of financial statements is a key component of any discussion on a firm's flexibility, slack, and/or excess capacity in a variety of contexts.

Based on the literature devoted to investments and intangibility, there are three general types of IVP measures found in the literature: price-, investment-, and variance-based (Kallapur and Trombley 1999). Price-based proxies involve various elements of a firm's assets in its balance sheet (e.g., property, plant, and equipment; depreciation; Tobin's Q; earnings-to-price ratio, etc.). Meanwhile, investment-based typically include elements of a firm's expenditures in its income statement (e.g., R&D expenditures and capital expenditures). Also, variance-based measures are based on the notion that variations in key firm indicators (e.g., returns, asset betas, etc.) indicate opportunities to invest in future firm opportunities. This study will focus on the first two categories as underpinnings for empirical analysis. However, this does not preclude this study from pursuing variability of the constructs discussed below as viable measures. Given their

appearance in the financial statements of individual firms, the proxy variables based on intangible value can be categorized as asset-based and expenditure-based.

Thus, continuing with the typology under development concerning technology- and marketing-based resources, the subsections below will address the following IVP measures as they appear in financial statements: property, plant, and equipment; capital expenditures; cash; cost of (goods) sold; inventory; sales, general, and administrative expenditures; and intangible assets.

Intangible Value Proxies and Real Options Valuation

While IVP and the supporting literature on investment opportunities may seem quite similar to a real options valuation (ROV) approach in its emphasis on flexibility as a value-added component to a firm's strategy, there are some distinct differences making ROV inappropriate in this study. In fact, Sorescu et al. (2003) expressed that radical innovation could be considered a real option, particularly as it permits preferential access to future firm development activities. Additionally, ROV discusses the usefulness of irreversible investments in the presence of uncertainty and additional expenses, thus implying that firms prefer lower fixed costs and higher variable costs to delay commitment as long as possible until viability is apparent (Kallapur and Eldenburg 2005). However, at least in a study of inventory conditions, support has not been found for lower committed costs bringing improved performance such as return on assets (ROA) (Balakrishnan et al. 1996).

Generally, ROV is used as a financial tool at the project-level. Ranging from an idea that it is a component of a firms total value or s specific investment proposal to

choices involving more than one proposal or even a reasoning heuristic for strategy development, recent work has stated that there is little consistency regarding the concept and application of real option (McGrath et al. 2004). As this study is at the corporate (or, firm) level, the justification of ROV for expressing and pursuing the notion of intangible resources would be weak and unclear at best and potentially catastrophically flawed at worst.

More stringent and focused discussion concerning ROV proposes that its applicability should be in cases in which both the target market and technical agenda are fixed, while other, path-dependent investment approaches should be used as either/both the target market and/or technical agenda become flexible (Adner and Levinthal 2004). As firms can be considered inherently a portfolio of resources and investments in a changing marketplace that must remain flexible to maintain competitiveness (c.f., Wernerfelt 1984), the ROV approach may not be the most optimal for firm-level analysis.

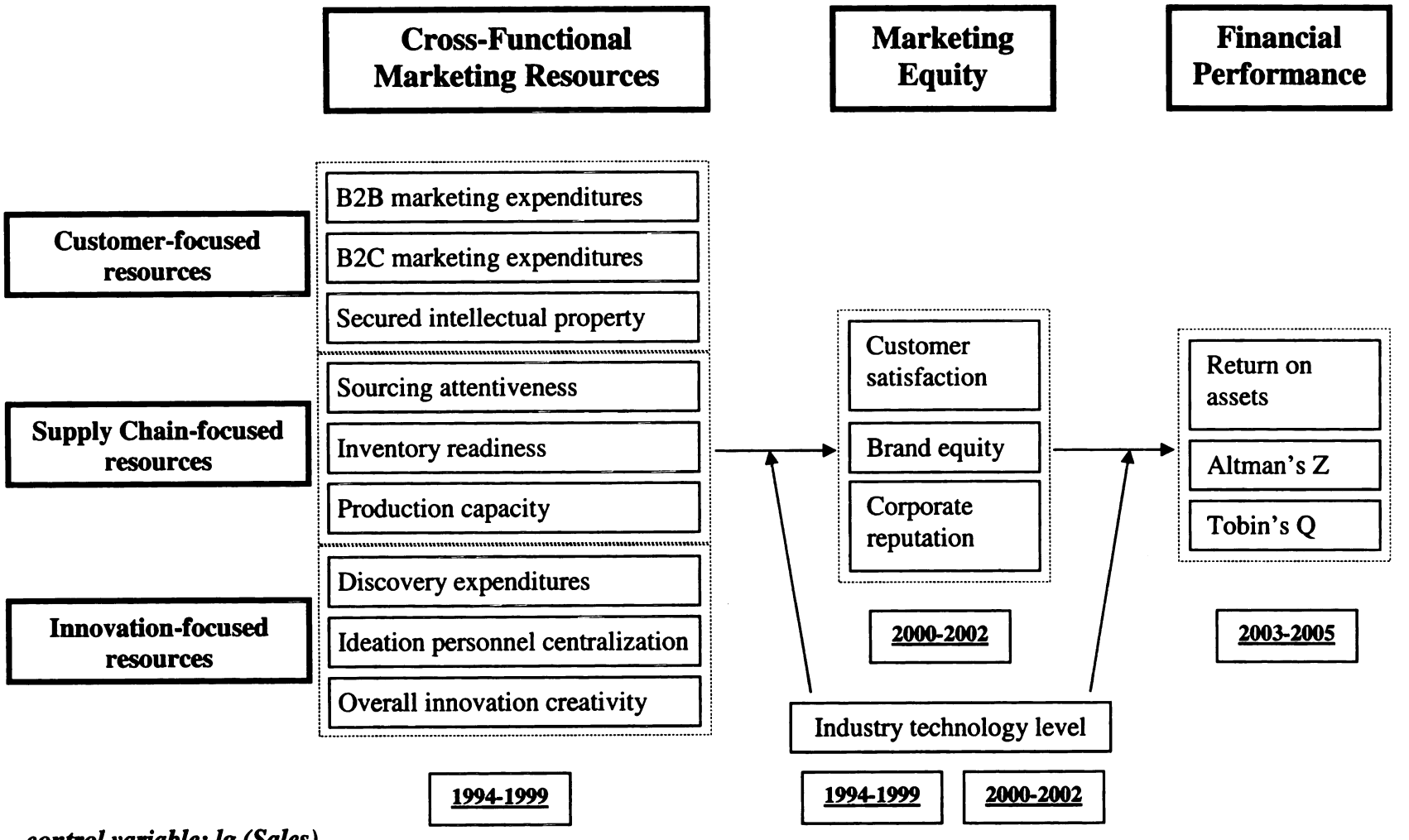
While the herein described IVP approach may not be considered an ideal method to measure and test path-dependent investments, it nonetheless captures the dynamics involved in any firm: that past decisions in resource allocation influence – to some extent – future resource allocations. In fact, researchers have stated that such accounting-related data is required as it provides guidance concerning the capital investments of the firm leading to underlying value creation (Chen and Zhang 2003; Zhang 2000). Thus, since the firm-level manifestation of resource allocations is a firm's financial data, this model hereby uses the IOS approach for conceptualization and analysis. As a firm's sets of IVP and investment opportunities are not directly observable (Gaver and Gaver 1993; Kallapur and Trombley 1999), this notion is supported in that a variety of IVP measures

from financial statements are used throughout the literature focusing on the opportunities provided by financial investment.

CONSTRUCTS

Generally, there are two general types of intangible resources discussed in the literature (Aaker and Jacobson 2001; Geyskens, Gielens, and Dekimpe 2002; Gupta, Lehmann, and Stuart 2004): intangible technology resources and intangible marketing resources (Razgaitis 2005; Slotegraaf, Moorman, and Inman 2003). As such, a typical description of intangible technology resources may be in the form of registered innovations while the latter would be the brands a firm possesses. However, the premise underlying this categorization of marketing resources does not directly address the cross-functionality of common business practices (Vargo and Lusch 2004). Long discussed as important in the marketing process, programs that aim to increase inter-departmental behaviors among traditional manufacturing, engineering, and marketing functions typically can reduce conflict and satisfy customers (Griffin and Hauser 1992, 1993). Found to not only reduce cross-functional conflict and increase responsiveness (Hult, Ketchen, and Slater 2005; Maltz and Kohli 2000), recent marketing research results indicate that such wholistic marketing behaviors are imperative to remain competitive in new product development teams (Joshi and Sharma 2004), radical innovation performance (Atuahene-Gima 2005), and preannounced product introductions (Wu, Balasubramanian, and Mahajan 2004).

Figure 1: Model of Cross-Functional Marketing Resources, Marketing Equity, and Financial Performance



Therefore, following the conceptual framework of Srivastava, Shervani, and Fahey (1999), this study proposes that there are three distinct types of cross-functional marketing resources that influence a firm's marketing equity: customer-focused, supply chain-focused, and innovation-focused resources. In addition, the notion of intangible resources follows previous work that indicates intangibles are dynamic, dependent on their application, and may be embedded in tangible resources (Vargo and Lusch 2004). However, extending this discussion, this study specifies precisely the nature of each category of intangible marketing resources. This is supported by the notion that a firm's intangibles and future growth opportunities may be valued in relation to the current stock of resources available in the firm (Gaver and Gaver 1993). From this, the long-term influence of the following intangible marketing resources on marketing equity and financial performance is plausible. This study subsequently integrates the elements of cross-functional marketing resources (customer-, supply chain-, and innovation focused resources) and its different facets into a framework driven by extant literature.

Customer-focused Resources

This study defines customer-focused resources as three-fold: business-to-business (B2B) expenditures, business-to-consumer (B2C) expenditures, and secured intellectual property. Previous studies indicate that B2B marketing expenditures are an important element in any marketing strategy selling to constituents in the next step of the value chain (Wuyts, Stremersch, and Dutta 2004). Also, B2C marketing expenditures are strategically significant for communicating to consumers (Kirmani and Rao 2000).

Additionally, given the stock of unspecified intangibles that may be used by the marketing function, the secured intellectual property of the firm is a third vital component of customer-focused resources (Keller 2003; Vargo and Lusch 2004).

B2B marketing expenditures. The role of marketing expenditures of suppliers and in the value chain is fundamental to the analysis of firm sales and relevant to the facilitation of its strategy in the competitive landscape (Gatignon and Xuereb 1997). In the pharmaceutical industry, allocating resources for a sales force to sell directly to medical representatives has been discussed as an important element of marketing strategy (Wuyts, Stremersch, and Dutta 2004). Additionally, researchers have forwarded that B2B marketing expenditures provide a reliable measure for the amount spent by a firm on its market research, sales effort, and related trade expenses (Dutta, Narasimhan, and Rajiv 1999).

Regarded as a driver of growth opportunities (Lev and Thiagarajan 1993), B2B marketing expenditures can indicate the capacity of the firm to synthesize customer-focused information and respond appropriately. In fact, this is supported in that firms are typically more responsive to increases of B2B marketing expenditures rather than decreases (Anderson, Banker, and Janakiraman 2003). Referred to as a type of administrative stickiness, firms anticipating or benefiting from increases in sales typically use more resources to support such changes in the marketplace.

More importantly, previous findings indicate that B2B marketing expenditures have a positive influence on performance (Kalwani and Narayandas 1995; Wuyts, Stremersch, and Dutta 2004). Generally, the notion that the influence of B2B marketing expenditures on profitability widely validates such resource outlays in the value chain

(Wuyts, Stremersch, and Dutta 2004). Meanwhile, in a study of suppliers in long-term relationships, Kalwani and Narayandas (1995) found that reductions in B2B marketing expenditures brought higher profitability, as well. These disparate results may be the artifacts of specific industry conditions. Nevertheless, they point to the importance of B2B marketing expenditures in developing, implementing, and maintaining a firm's marketing strategy.

B2C marketing expenditures. Contrary to the role of B2B marketing expenditures, B2C marketing expenditures take on a different role and focus on the end-user. An equally important element of a firm's marketing strategy, B2C marketing expenditures represent the strategic investment made by the firm in informing the consumer of its product or service (Dutta, Narasimhan, and Rajiv 1999). In particular, B2C marketing expenditures can act as a signal to the market that the firm has specific intentions of becoming or maintaining its position as market leader (Heil and Langvardt 1994). This distribution of resources focusing more heavily on the end-user can signal definitive quality vis-à-vis competitors, but can easily become ineffective if the firm lacks a true point of competitive differentiation (Kirmani and Rao 2000).

In addition, researchers have linked B2C marketing expenditures with performance (Mulhern and Padgett 1995; Rao, Agarwal, and Dahlhoff 2004; Singh, Faircloth, and Nejadmalayeri 2005). Found as one of the drivers of profitability (Mulhern and Padgett 1995) and a firm's market value added (Singh, Faircloth, and Nejadmalayeri 2005), previous studies have also compared the conditions under which B2C marketing expenditures impact performance. Generally, in corporate branding circumstances, the influence of B2C marketing expenditures on Tobin's Q was found to be positive, but

when a house-of-brands strategy was employed a negative relationship resulted (Rao, Agarwal, and Dahlhoff 2004). Possibly the result of B2C marketing expenditures as more effective when a corporate brand strategy is used, it can be concluded that B2C marketing expenditures are essential in the development of this typology of intangible marketing resources.

Secured intellectual property. In addition, secured intellectual property refers to the stock of intangibles that can be used by the firm's marketing function and is to be focused on its customers (Hall 1993; Lusch and Vargo 2004). Typically, a firm is only able to protect intangibles such as research designs, copyrights, trademarks, trade secrets, contracts, licenses, and databases through legal action (Hall 1993). Encompassing the specific expertise embedded in the firm as a resource (Jap 1999), this notion of intellectual property is far-reaching in scope and is a vital component of customer-focused resources. Thus, there is a clear incentive for firms to secure as much intellectual property as possible to remain competitive.

Comprised of both people and systems, intellectual property is thought of as comprised of three inter-related elements: human capital, social capital, and organization capital (Wright, Dunford, and Snell 2001). However, for the purposes of this model, there are the two distinct levels of intellectual property that are relevant: the individual and the firm (Hall 1993; Mosakowski 1998; Rousseau and Shperling 2003; Srivastava, Shervani, and Fahey 1998). For example, a firm's intellectual property at the individual level may include the skills, processes, and procedures used in routine, implementation, or strategic capacities by employees and managers on a daily basis (Brown, Dev, and Lee 2000; Geyskens, Gielens, and Dekimpe 2002; Gruca and Sudharshan 1995; Houston and

Johnson 2000). While a firm's intellectual property at the individual level may be more difficult to secure should an employee or manager leave the firm, they nonetheless can be used until such an event occurs.

In contrast, firm level intellectual property may be considered the accumulation of a firm's registered trademarks and innovations (Keller 2003), but also other design, developmental, electronic resources that competitors may not have access to or be able to create (Hall 1993). However, there is always the possibility that such secured intellectual property may leak into the marketplace. As such, the literature has also identified an even more elusive form of intellectual property: organizational culture and values (Carmeli and Tishler 2004; Hall 1993; Mosakowski 1998; Srivastava, Shervani, and Fahey 1998). Though not very visible, this social architecture is quite resistant to imitation and therefore is strategically valuable (Mueller 1996).

At times referred to as the level of organizational entrepreneurship, a company's ability to innovate and imitate as needed in the market is of utmost importance (Im and Workman 2004; Zhou, Yim, and Tse 2005). Equally compelling is the development of intrapreneurship (Agarwal, Echambadi, Franco, and Sarkar 2004; Im and Workman 2004). Pivotal in explaining the ability of a firm to harness the knowledge and understanding of lower-level actors in an organization (Achrol 1991; Hart 1992; Levinthal and Warglien 1999; Stopford and Baden-Fuller 1994), intrapreneurship explains how individual performance influences overall organizational effectiveness (Frese, Kring, Soose, and Zempel 1996). Thus, secured intellectual property as outlined here indicates its pertinence as a cross-functional marketing resource.

Supply Chain-focused Resources

Our description of supply chain-focused resources includes three distinct elements: sourcing attentiveness, inventory readiness, and production capacity. Identified recently as important in considerations of product design and innovation (Wernerfelt 2005), the interconnected nature of supply chain resources with the overall marketing function has been confirmed conceptually and empirically (Dutta, Narasimhan, and Rajiv 1999; Ghosh and John 1999; Srivastava, Shervani, and Fahey 1999). In fact, findings suggestion that implementation of programs such as Quality Function Deployment (QFD) tend to increase communication between the traditional manufacturing, engineering, and marketing functions and reduce conflict to satisfy customers (Griffin and Hauser 1992). Therefore, the intangible value of applying personal and organizational networks for competitiveness both upstream and downstream emphasizes the importance of supply chain-focused resources in marketing (Frels, Shervani, and Srivastava 2003; Ghosh and John 1999; Hall 1993).

Sourcing attentiveness. The effectiveness of a firm's sourcing practices and procedures as a supply chain-focused resource is an important component of this model. Generally, the literature has found purchasing and sourcing management an integral part of maintaining sourcing processes effective (Zsidisin, Ellram, and Ogden 2003). In fact, findings indicate that specific sourcing processes such as product quality and time to market to influence sales and customer satisfaction (Tatikonda and Montoya-Weiss 2001). With superior production quality at a reduced cost, the firm is then positioned to create and deliver better competitive value to its customers (Ghosh and John 1999).

The underlying notion here is that a firm's competitiveness may be diminished should it utilize too many resources (that could otherwise be deployed elsewhere in the firm) to produce a set of goods or services. Though typically conceptualized as related to the cost of production (Dutta, Narasimhan, and Rajiv 1999), sourcing attentiveness would allow the firm's remaining resources to be utilized in other functions. Therefore, by maintaining competitiveness in its sourcing and purchasing of materials for production of goods and/or services, the significance of a firm's sourcing attentiveness is evident.

Inventory readiness. The readiness at which a firm manages its supply of products or services to downstream partners in the value chain is also particularly relevant (Ghosh and John 1999). Acknowledged as another facet of supply chain-focused resources, the ability of the firm to respond to varying levels of demand in the marketplace is considered a driver of firm value (Balakrishnan, Linsmeier, and Venkatachalam 1996; Lev and Thiagarajan 1993).

The general consensus is that a firm's inventory readiness is contingent on a firm's mix of product and materials inventory. By developing cross-functional marketing resources that are designed for both pull and push strategies, a firm is better able to keep lower inventories and maintain a level of work in progress such that it can respond quickly to changing market demand (Hopp and Spearman 2001). This is particularly important in conditions of high market turbulence. Some firms are better able to practice efficient inventory readiness by conducting a just-in-time strategy that can lead to superior returns (Balakrishnan, Linsmeier, and Venkatachalam 1996). As a result, there is little doubt that inventory readiness is another essential part of a firm's supply chain-focused resources.

Production capacity. Beyond a firm's sourcing attentiveness and inventory readiness, the capacity of the firm to produce goods or services is the last supply chain-focused resource in this model. As such, it is forwarded here that the equipment under a firm's control can be considered an intangible resource in its own right (Barth and Kasznik 1999; Jap 1999). In fact, depending on its strategic application, the capacity to produce can either contribute to or detract from performance in the marketplace.

Some have indicated that a firm's production capacity is very rarely maximized (Hopp and Spearman 2001), thus leaving the potential for slack creation and flexibility to respond to the market. Equally compelling are findings noting that the capacity to produce may decrease responsiveness and value (Kallapur and Trombley 1999). One can only conclude that a firm's production capacity can impact how materials are used but also how those finished materials are directed to customers and end-users. Therefore, this model incorporates this central component of supply chain-focused resources.

Innovation-focused Resources

The innovation-focused resources described in this model have three parts, as well: discovery expenditures, ideation personnel centralization, and overall innovation creativity. Based on the concept that the innovation process includes not only research and development, it is proposed here that the individual as well as the firm's accumulated innovations efforts in new product development (NPD) also have a role (Cooper 2001). Thus, the cross-functional nature of innovation-focused marketing resources underscores the relevance of each construct in this model (Srivastava, Shervani, and Fahey 1999).

Discovery expenditures. Be it from knowledge spillovers or organic, internal growth, the level of resources used in the discovery, research, development, and engineering process may be considered one of the only ways that a firm may differentiate itself (Cooper 2001; Hauser 1998). This measurement of resource allocation is common in the innovation literature and has been applied in a variety of settings that range from the pharmaceutical and shipbuilding industries to analyses of slack, innovation, customer satisfaction, and shareholder value (Greve 2003; Gruca and Rego 2005; Joshi and Sharma 2004; O'Brien 2003; Prabhu, Chandy, and Ellis 2005).

Nonetheless, at least two important issues related to the NPD process are accomplished with the discovery expenditures conceptual construct. First, the amount of organizational slack allowed for innovation is taken into account as it has been shown to influence the NPD process considerably (Greve 2003). Second, the strategic importance of the NPD process in the firm is directly measured (O'Brien 2003; Mizik and Jacobson 2003). Therefore, the level of resources devoted to the design of product and service discovery is a valuable contribution to the overall allocation of a firm's innovation-focused resources.

Ideation personnel centralization. This study extends the notion of the individual as an intangible resource with the concept of ideation personnel centralization. This is based on the notion of ideation personnel centralization in previous marketing research concerning ideation (Goldenberg, Mazursky, and Solomon 1999). However, rather than discuss the ideation process, this study forwards the concept of ideation personnel (or, inventors) as an important innovation-focused resource.

In essence, this is based on the innovation level of the most productive inventors in a firm. Typically associated with radical technology shifts rather than gradual technological developments (Zyglidopoulos 1999), the importance of inventors in the innovation process has considerable basis in the literature (e.g., Hargadon and Sutton 1997; Singh 2005). Findings indicate that the development of innovation and knowledge generally clusters around top inventors in a region or industry (Almeida and Kogut 1999), thus inferring their value as a resource to firms.

As a result, inventors are considered knowledge and technology brokers that are characterized as intensely curious to develop new ideas from sources internal or external to the firm (Hargadon and Sutton 1997). The most successful of these inventors have been found as deeply involved in the commercialization of inventions (Zucker and Darby 1997). By striking a balance between familiar and original traits, these inventors are able to recombine previous innovations to develop new discoveries, formulations, and products that may be useful and appealing to a wider audience (Hargadon and Douglas 2001). As such, inventors identify useful solutions by keeping in mind their potential usefulness in the marketplace (Goldenberg, Lehmann, and Mazursky 2001). Therefore, the centralization of such unique and rare talents in a firm can be considered a distinct advantage that contributes to its competitiveness.

Overall innovation creativity. The concept of overall innovation creativity varies with the context in which it is used. In fact, more creative teams benefited from a perceived notion that tasks required high creativity levels, participative problem-solving, and a supportive climate for creativity (Gilson and Shalley 2004). However, whether studied in the implementation of marketing programs (Andrews and Smith 1996; Im and

Workman 2004), at the cross-functional project level (Sethi, Smith, and Park 2001), or at the individual innovator level (Hargadon and Sutton 1997), the commonality of creativity is that it is used to explain the resultant of a wide variety of work, experience, and analysis.

As such, the basis of the use of creativity level in this model is rooted in the literature on incremental product innovation, radical product innovation, and the level of newness the innovation is to the intended marketplace. An underlying notion of this topic is that incremental innovations lack original information in the development process (Wuyts, Stremersch, and Dutta 2004). Meanwhile, radical product innovation concerns the level to which a firm's cumulative product and/or technological innovations are new. Including instances of disruptive innovations, radical product innovation relies on the integration of concepts from different innovation categories (Cooper 2001; Joshi and Sharma 2004).

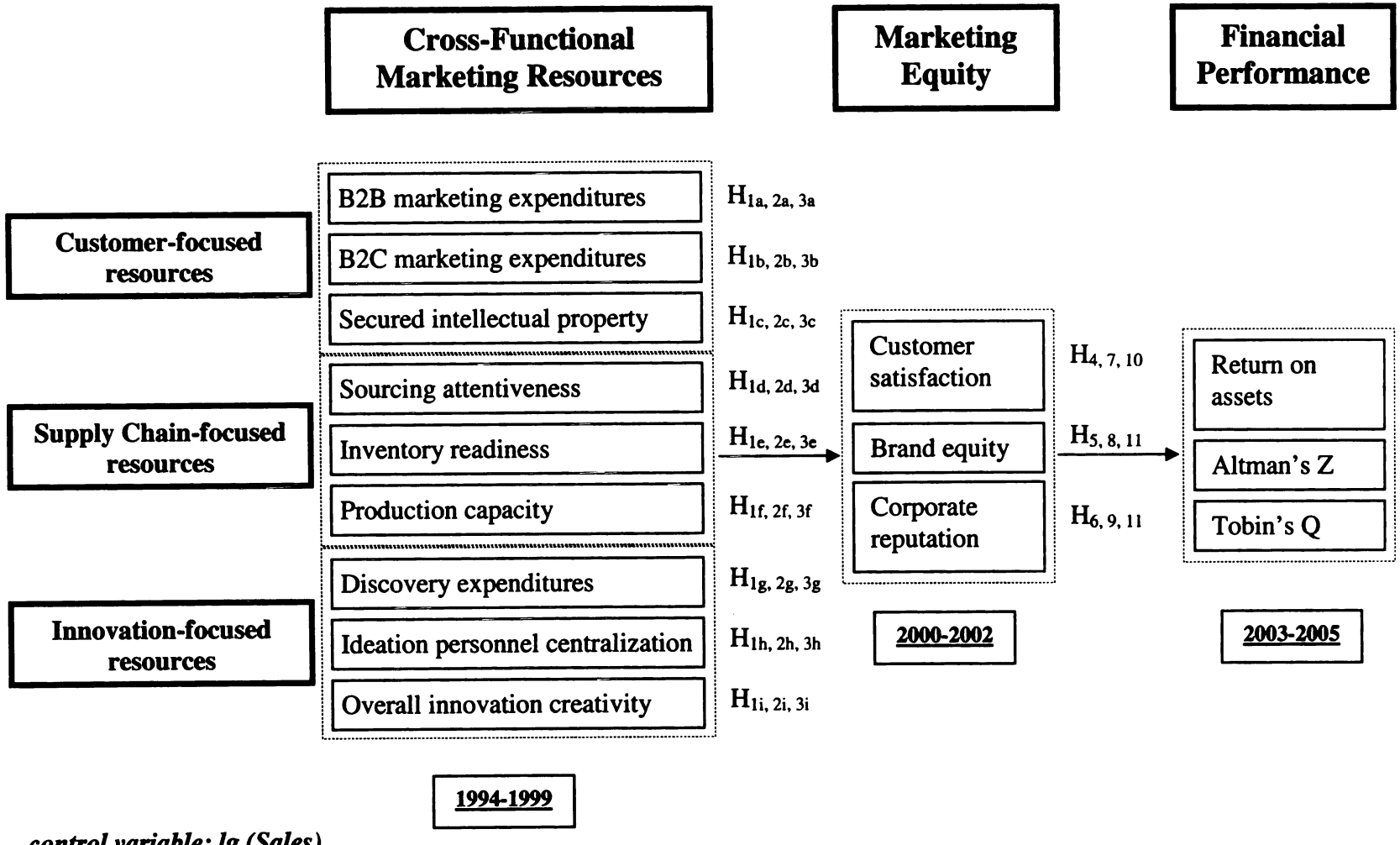
Contrary to incremental innovation, this variable expresses the novelty of information and development associated with the innovation (Joshi and Sharma 2004; Wuyts, Stremersch, and Dutta 2004). In addition, market newness concerns the level to which the cumulative innovations developed by the firm are original to the marketplace and are unrelated to current (or past) products or technologies in the marketplace. In fact, the originality of a firm's product or service offerings is generally associated with the level of newness vis-à-vis competitors, thus creating a new product advantage (Li and Calantone 1998). Given these different aspects of overall innovation creativity, it is concluded here that innovation originality is also an innovation-focused resource.

HYPOTHESIS DEVELOPMENT

Based on the definition of equity as "a right, claim, or interest existing or valid...[or]... a risk interest or ownership right" (*Merriam-Webster* 1967, p. 281), three fundamental elements of marketing equity are forwarded: customer satisfaction, brand equity, and corporate reputation. Measuring different facets of marketing outcomes and representing a firm's customer-based interests in the marketplace, it is forwarded here that these three components of marketing equity are indeed essential to explaining overall financial performance. In fact, this framework responds to calls in the literature to better understand the influence of a firm's resource allocations on financial performance by proposing models with the role of mediating, comparative outcome measures (Daniel, Lohrke, Fornaciari, and Turner 2004; Ray, Barney, and Muhanna 2004). Due to the dynamics of competitive rivalries that inherently drive customer decisions, customer satisfaction, brand equity, and corporate reputation are viewed here as comparative measures of performance and inherently vital to the development of the literature.

To develop this model, the following section introduces the synergistic relationship of these three elements of marketing equity. This study aims to synthesize previous work on marketing measures and provide a comprehensive framework clarifying theoretical relationships that may exist concerning these three essential marketing metrics as well as their antecedents and consequences. As inferred previously, this study forwards that the hitherto mentioned cross-functional marketing resources are antecedents in this model. In addition, forward commonly used financial performance measures as consequences of each of marketing equity's three fundamental elements.

Figure 2: Hypotheses Relating Cross-Functional Marketing Resources, Marketing Equity, and Financial Performance



Customer Satisfaction

Typically used as a consumer-based measure of marketing performance, extant research has usually used the concept of customer satisfaction as a short-term marketing measure driving channel equity and brand equity (Rust et al. 2004). Some studies suggest that customer satisfaction is indeed a marketing variable that is formed over a period of time (Anderson, Fornell, and Lehmann 1994). However, it is posited here that customer satisfaction is influenced by both the short-term actions taken by the firm as well as the accumulated actions that relate to the immediate satisfaction of the customer. As such, it is a vital component of marketing equity and is included in this model as the result of a firm's allocation of cross-functional intangible marketing resources.

Based on the customer's assessment of a firm's perceived quality, perceived value, and customer expectations, the construct of customer satisfaction measures the level of overall customer satisfaction with the firm's products or services. Acknowledged as another variable that is formed over the long-term (Anderson et al. 1994), findings have indicated that firms which are market-oriented tend to enjoy higher customer satisfaction ratings (Homburg and Pflesser 2000). With quality considered much more influential than price, the drivers established that influence this variable are overall perceived quality and previous performance based on customer expectations and perceived value (Anderson and Sullivan 1993; Fornell 1992; Fornell et al. 1996). Thus, to manage customer expectations, firms should be careful of promising a product or service that it cannot deliver (Anderson et al. 1994).

In addition, customer satisfaction is generally considered higher when there is an alignment between industry characteristics and customer tastes. For instance, this variable is higher with conditions where customer tastes are homogeneous in industries which are not differentiated; the same was found for heterogeneous customer preferences and highly differentiated industries (Fornell 1992). In addition, similar findings are implied from a comparison of goods, services, and government agencies: goods industries were highest in customer satisfaction and government agencies were lowest (Fornell et al. 1996). As such, customer satisfaction has been forwarded as influencing the likelihood of repurchase and general loyalty (Mittal and Kamakura 2001; Oliva et al. 1992; Olsen 2002). However, the ability of firm to develop strategies to identify and respond to these conditions is contingent it finding the appropriate fit between the dominant strategic archetype in the firm and the optimal strategy for success in the market (Miles and Snow 1978).

However, as found in other aspects of marketing (e.g., the brand literature), negative experiences tend to outweigh positive ones (Bolton 1998; Mittal et al. 1998). Given that customer expectations can be set excessively high to the point where a firm cannot fulfill expectations, there are certain tradeoffs concerning quality and overall performance leading some to conclude that too much can be spent on quality (Rust et al. 1995). Along this same line of thought, too much attention may be paid to loyal customers and such actions may be counter-productive (Rust et al. 1999; Rust and Oliver 2000). In fact, some researchers go even further and find that there is a trade-off between customer satisfaction and market share (Anderson et al. 1994; Fornell 1995). These indications lead the researcher to conclude that there are instances in which resources can

be unduly wasted by a firm attempting to satisfy customers who cannot be satisfied. As result, fewer resources are available to prevent negative experiences and may damage the firm's overall customer satisfaction in the marketplace. Thus, the firm's competitive advantage could be endangered, potentially leading to damaging consequences in its ability to sustain any sort of competitive advantage in the long-term (Barney 1991).

A recent meta-analysis focusing on this topic indicates that two important antecedents of customer satisfaction are equity (a judgment of fairness, rightness, or deservingness made by consumers to note how it is perceived others will benefit) and disconfirmation (Szymanski and Henard 2001). In addition, customer satisfaction of a firm has been related to shareholder value at varying degrees of industry concentration (Anderson et al. 2004), thus lending credence to the notion that the level of customer satisfaction a firm enjoys may be a competitive advantage while shareholder value may be a sustained competitive advantage (Barney 1991).

The general notion in this research stream is that a firm's ability to communicate and deliver its product or service to buyers (customers or consumers) leads to financial returns and more exact customer information (Parasuraman and Grewal 2000a). In response to the proposition that technology may contribute to quality, value, and customer loyalty (Parasuraman and Grewal 2000b), in a study exploring the influence of customer relationship management on customer knowledge and customer satisfaction, three main drivers of a firm's customer satisfaction were evident: 1) the presence of a CRM application (positive association); 2) investments in information technology (negative association); and 3) a general improvement in customer knowledge (positive association) (Mithas et al. 2005). Similar to the general tenets of market knowledge

competence in that the antecedents of its three primary constructs (customer knowledge process, the marketing-R&D interface, and the competitor knowledge process) are both external and internal forces, effective implementation of these processes in the firm contribute to new product advantage and market performance (Li and Calantone 1998).

A recent meta-analysis indicates that two important antecedents of customer satisfaction are equity (a judgment of fairness, rightness, or deservingness made by consumers to note how it is perceived others will benefit) and disconfirmation (Szymanski and Henard 2001). In addition, customer satisfaction of a firm has been related to shareholder value at varying degrees of industry concentration (Anderson, Fornell, and Mazvancheryl 2004), thus lending support to the notion that the level of customer satisfaction a firm enjoys may be a competitive advantage while financial measures (e.g., shareholder value) may be a sustained competitive advantage (Barney 1991).

As such, a firm would need to find the appropriate mix of cross-functional resources that incorporate product development, supply chain, and customer relationship concerns to fill need in the marketplace and attain a competitive advantage (Child 1972; Li and Calantone 1998; Song and Parry 1997). Therefore, the allocation of a firm's customer-, supply chain-, and innovation-focused resources should influence customer satisfaction.

Since a firm's properly-directed and developed new product advantage should be appropriately geared for the marketplace, the following should result:

H1: There should be a positive relationship between a firm's (a) B2B marketing expenditures, (b) B2C marketing expenditures, (c) secured intellectual property, (d) sourcing attentiveness, (e) inventory readiness, (f) production capacity, (g) discovery expenditures, (h) ideation personnel centralization, and (i) overall innovation creativity, and its customer satisfaction.

Brand Equity

A popular application of the concept of a firm's brand equity is that it is comprised of two components: 1) demand in the marketplace that enhanced brand equity; and 2) the reduction of required marketing expenses as a result of enhanced brand equity (Simon and Sullivan 1993).

In fact, the construct of brand equity is defined as the strength of a firm-level brand in the marketplace. The most widely accepted conceptualization of this variable includes four components: brand loyalty, name awareness, perceived quality, and brand associations (Aaker 1991; Reddy et al. 1994). However, conceptualizations and measurements of brand equity in this vein are typically at the consumer level.

Considered an important contribution from the field of marketing to overall firm value (Varadarajan and Jayachandran 1999), brand equity must be considered in any model addressing the topic of brands. In fact, there are many different types of brands as per the literature and practice. Brand strategies employed by firms can usually be categorized in three types: corporate brands, house of brands, and mixed brands (Laforet and Saunders 1994; Rao et al. 2004). A similar approach looks at the phenomenon as corporate, family, and product brands (Keller 2003). In addition, an even more detailed

assessment of the brand landscape identifies product, line, range, umbrella, source (or, parent), and endorsing brands (Kapferer 1992).

This implies that the relationship customers have with a firm-level brand can be quite broad. In fact, the conclusion is that a firm's brand equity may be influenced by not only customer-focused resources, but also by the innovation process and the process and delivery of a product or service to the end-user. Therefore, the comparative nature of brand equity as a performance measure driven by the appropriate allocation of cross-functional resources to fit with demand in the marketplace is essential (Child 1972; Li and Calantone 1998; Ray, Barney, and Muhanna 2004; Song and Parry 1997).

Since the current study is assessing firm-level characteristics, results can be classified as applicable to the study of corporate brands. Studies of brand equity have pursued its relevance as compared to private labels (Ailawadi et al. 2003) and the direct negative experiences and unclear corporate responses (Dawar and Pillutla 2000). Advertising has been found to have a long-term impact on brand equity (Jedidi et al. 1999), but many experiments conducted on the subject to date may not be entirely accurate (Mackenzie 2001). Thus, this paper is including it as a firm-level variable with more objective data. Though accomplished in previous studies (Slotegraaf et al. 2003), this project aims to potentially develop a new, customer-based brand equity index. However, given the competitive strategies chosen through resource allocation, the effectiveness of managerial decision making on performance is crucial (Child 1972).

The construct of brand quality is based on customer perceptions and has been used in the literature as a viable alternative to brand equity (Aaker and Jacobson 1994). As such, it has been used and defined as the level that consumers associate the firm-level

brand with quality. The importance of this variable must be noted since it has been acknowledged as having long-term effects in the marketplace (Aaker and Keller 1990). The general consensus in the literature is that brands with higher perceived quality tend to perform better among consumers when extensions are introduced in complementary and substitutable product classes (Aaker and Keller 1990). This was further supported when a very similar construct, brand strength, was found to moderate positively the relationship between a brand extension and the brand's overall market share (Smith and Park 1992). As such, the relation of a firm's tangible and intangible resources to its brand equity reflect the need to measure marketing outcomes comparatively to better assess a firm's competitive advantage (Ray et al. 2004). Thus:

H2: There should be a positive relationship between a firm's (a) B2B marketing expenditures, (b) B2C marketing expenditures, (c) secured intellectual property, (d) sourcing attentiveness, (e) inventory readiness, (f) production capacity, (g) discovery expenditures, (h) ideation personnel centralization, (i) and overall innovation creativity, and its brand equity.

Corporate Reputation

Contrasting the use of customer satisfaction and brand equity in the literature, the essence of the corporate reputation construct has been conceptualized in the literature as akin to a firm's channel equity (Fombrun and Shanley 1990; Geyskens, Gielens, and Dekimpe 2002; Houston and Johnson 2000; Srivastava, Shervani, and Fahey 1998). Recently established as a driver of marketing communication productivity (Luo and Donthu 2006), its reputation is generally considered relatively stable (Gioia, Schultz, and

Corley 2000). The use of corporate reputation in the literature is based on the notion that firms typically serve multiple stakeholders (Brown et al. 2006; Fombrun and Shanley 1990; Houston and Johnson 2000). As such, the ability of the firm to fulfill the demands of outside stakeholders can be reflected in its standing among industry experts and partners (Roberts and Dowling 2002).

There is little doubt that a firm's reputation is an integral element of marketing equity. Identified as a relevant strategic indicator, the corporate reputation of a firm in the value chain can even influence consumer knowledge among end-users (Sen and Bhattacharya 2001). This indicates the importance of a channel-based measure of marketing equity to measure a firm's true standing in the marketplace (Srivastava, Shervani, and Fahey 1998). In fact, scholars typically follow Fombrun and Shanley's (1990) view of corporation reputation and interpret it as "the outcome of a competitive process in which firms signal their key characteristics to constituents to maximize their social status" (p. 234).

Implicit in any competitive process is the allocation and direction of resources to respond to market conditions for a positional advantage (Barney 1991; Child 1972; Day and Wensley 1988; Peteraf 1993; Wernerfelt 1984). Furthermore, the appropriate cross-functionality of such resource distributions (be they across teams, business units, or marketing tactics) is a critical factor for success in the marketplace (Duncan and Moriarty 1998; Fombrun and Shanley 1990; Griffin 1997; Li and Calantone 1998). Therefore:

H3: There should be a positive relationship between a firm's (a) B2B marketing expenditures, (b) B2C marketing expenditures, (c) secured intellectual property, (d) sourcing attentiveness, (e) inventory readiness, (f) production capacity, (g) discovery expenditures, (h) ideation personnel centralization, and (i) overall innovation creativity, and its corporate reputation.

Return on Assets

The use of return on assets (ROA) as an objective measure of a firm's profitability is quite common (Anderson, Fornell, and Mazvancheryl 2004; Sorescu, Chandy, and Prabhu 2003; Rust, Moorman, and Dickson 2002; Vorhies and Morgan 2005). In fact, scholars indicate that ROA is a traditional financial measure that may be used as an alternative to constructs such as shareholder value and stock return (Aaker and Jacobson 2001; Gruca and Rego 2005). Therefore, ROA is an appropriate financial performance measure to assess the impact of each distinct component of marketing equity on a firm's profitability. Given that customer satisfaction, brand equity, and corporate reputation each measure different facets of a firm's marketplace performance (or, marketing equity), it is forwarded that these comparative performance measures will indeed influence absolute financial outcomes (Daniel et al. 2004; Ray, Barney, and Muhanna 2004).

Previous research has indicated that customer satisfaction, brand equity, and corporate reputation can impact financial performance. However, to date such studies have typically assessed the influence of elements of marketing equity on accounting-based performance measures in isolation (Aaker and Jacobson 2001; Anderson, Fornell,

and Mazvancheryl 2004; Gruca and Rego 2005 Roberts and Dowling 2002; Slotegraaf, Moorman, and Inman 2003). Contrary to this, this study propose an integrative framework indicating that – influenced by the allocation and direction of cross-functional marketing resources – each component of marketing equity contributes to financial performance (Child 1972; Li and Calantone 1998; Ray, Barney, and Muhanna 2004). Therefore:

H4: There should be a positive relationship between a firm's customer satisfaction and its ROA.

H5: There should be a positive relationship between a firm's brand equity and its ROA.

H6: There should be a positive relationship between a firm's corporate reputation and its ROA.

Altman's Z

The use of ROA as the only measure of financial performance has its drawbacks. In fact, scholars have forwarded that the use of ROA only captures short-term effects for one fiscal year and may not be suitable to understand financial performance over a considerable period of time (Pauwels, Silva-Russo, Srinivasan, and Hanssens 2004; Varadarajan, Jayachandran, and White 2001). Therefore, this study proposes Altman's Z as a measure that identifies the likelihood of a firm's bankruptcy (Altman 1984; Altman, Haldeman, and Narayanan 1977). As an assessment of a firm's financial health (Sen and Bhattacharya 2001), this measure of performance has been used in a variety of contexts (Grice and Ingram 2001). In fact, there is a considerable literature base that studies

privatization, audit-related litigation, and financial risk (Andrews and Dowling 1998; Carcello and Palmrose 1994; Krishnan and Krishnan 1997; Stice 1991).

However, recent research has also related Altman's Z to advertising expenses, the cost of capital, and strategies of joint-ventures by multinational corporations (Reuer and Leiblein 2000; Singh, Faircloth, and Nejadmalayeri 2005). As such, the possibility of a firm's bankruptcy may be used in this framework as a longer-term measure of financial performance than ROA. The result is that it is posited that the adoption of such a metric by researchers since it can offer an alternative measurement to explicitly assess the quality of cumulative strategic decisions made by the firm and its managers (Child 1972). Thus:

H7: There should be a positive relationship between a firm's customer satisfaction and its Altman's Z.

H8: There should be a positive relationship between a firm's brand equity and its Altman's Z.

H9: There should be a positive relationship between a firm's corporate reputation and its Altman's Z.

Tobin's Q

Used to indicate the level of a firm's intangibles, Tobin's Q has been applied in many settings and is well-recognized as a dependent variable measuring financial performance (Anderson, Fornell, and Mazvancheryl 2004; Rao, Agarwal, and Dahlhoff 2004; Rust et al. 2004). Based on early approaches introducing and popularizing this measure of shareholder value through intangibility (Montgomery and Wernerfelt 1988;

Tobin 1969, 1978), a multi-industry study strangely found that firm size negatively impacted a firm's Tobin's Q while it positively impacted a firm's other accounting-based performance measures (Wiggins and Ruefli 2002). One could speculate the reason for such findings is that the competitive strategies employed by the firm emphasize short-term financial performance rather than developing longer-term sustainable competitive advantage (Barney 1991; Child 1972; Pauwels et al. 2004; Varadarajan, Jayachandran, and White 2001).

Many studies employ Tobin's Q as a measure of overall firm performance, be it relative profitability (Dutta, Narasimhan, and Rajiv 1999), shareholder value in the firm (Gruca and Rego 2005), market valuation of the firm (Lee and Grewal 2004), or as a replacement construct for return on investment (ROI) (Anderson, Fornell, and Mazvancheryl 2004). Recently, Tobin's Q has been used to measure the contribution of differing branding strategies (Rao, Agarwal, and Dahlhoff 2004) as well as contribute to the customer satisfaction literature (Anderson, Fornell, and Mazvancheryl 2004; Gruca and Rego 2005). Additionally, corporate reputation research has shown that a firm's reputation can lead to trustworthiness and a price premium (Rindova et al. 2005; Sirdeshmukh, Singh, and Sabol 2002). This study proposes that the trust (and the price premium associated with such trust) placed in a firm by outside stakeholders is a result of the standing relationships it has with B2B and B2C customers. As a result, this should have an indelible influence the firm's overall financial performance (Srivastava, Shervani, and Fahey 1998; Gioia, Schultz, and Corley 2000).

Using Tobin's Q as an outcome variable indicates that, through B2C-based (customer satisfaction and brand equity) and B2B-based elements of marketing equity

(corporate reputation), it may be employed to measure the long-term intangible value of cross-functional decisions made by managers to bring the firm a sustainable competitive advantage (Barney 1991; Child 1972; Li and Calantone 1998). Thus:

H10: There should be a positive relationship between a firm's customer satisfaction and its Tobin's Q.

H11: There should be a positive relationship between a firm's brand equity and its Tobin's Q.

H12: There should be a positive relationship between a firm's corporate reputation and its Tobin's Q.

Moderator Variables

Firstly, among the variables to be considered as moderators on the path from the category of firm resources to marketing outcomes will be marketing expenditures, sales force expenditures, and advertising expenditures. As all three of these are marketing related, the general notion is that the marketing function assists in properly directly firm resources to optimal marketing outcomes.

Secondly, the variable that is proposed here as having a moderating effect on the category of marketing outcome variables to financial performance variables is the level of firm newness of the overall innovations in the firm. As such, this will either accentuate or diminish the main effects proposed in the model.

Thirdly, there may also be the opportunity to test two overall moderating variables on the model: firm growth and industry growth. (Please note that industry growth is thought of here as similar to technological stability.) While conceptual

development has not yet been fully realized or articulated, these may prove to be further interesting in their impact on not only the aforementioned moderating variables (e.g., marketing, sales force, and advertising expenditures; firm newness of innovations; etc.), but also on the main effects of the model. As such, by analyzing the model not only based on resources, but also on the dynamics of a particular industry, the propositions forwarded may changed substantially as a result. For instance, this study will use Mizik and Jacobson's (2003) approach to differentiating industries as high, medium, and low growth if this is determined to be a moderating variable of sufficient merit.

Table 1: Sample's Most Prominent Industries and Classification Scheme

INDUSTRY	SIC codes	Technology Classification	Freq.
CRUDE PETROLEUM & NATURAL GAS	1311	low technology	11
OPERATIVE BUILDERS	1531	low technology	10
PHARMACEUTICAL PREPARATIONS	2834	high technology	10
PETROLEUM REFINING	2911	stable technology	8
SEMICONDUCTOR & RELATED DEVICES	3674	high technology	9
MOTOR VEHICLE PARTS & ACCESSORIES	3714	stable technology	9
TRUCKING, EXCEPT LOCAL	4213	low technology	9
AIR TRANSPORT, SCHEDULED	4512	high technology	10
PHONE COMMUNICATIONS EX RADIOTELEPHONE	4813	high technology	8
ELECTRIC SERVICES	4911	stable technology	21
ELECTRIC & OTHER SERVICES COMBINED	4931	stable technology	15
GROCERY STORES	5411	low technology	9
EATING PLACES	5812	low technology	13
COMMERCIAL BANKS	6020	stable technology	21
SECURITY BROKERS & DEALERS	6211	stable technology	9
LIFE INSURANCE	6311	stable technology	13
HOSPITAL & MEDICAL SERVICE PLANS	6324	stable technology	8
COMPUTER PROGRAMMING & DATA PROCESSING	7370	high technology	12
PREPACKAGED SOFTWARE	7372	high technology	10

CHAPTER FOUR

METHODS

"You've got to be very careful if you don't know where you're going, because you might not get there."
– Lawrence Peter 'Yogi' Berra (1925-)

The research hypotheses presented above were tested from five distinct secondary data sources and employed an enhanced least squares approach. The unit of analysis for this study is at the level of the firm. Each variable discussed below was standardized to minimize spurious measurement, multicollinearity, and non-normality effects that may confound the study. Additionally, the logarithmic function of each firm's net sales was used as a control variable. Variance inflation factors for all variables tests in all models were below 10, indicating that multicollinearity is likely not confounding analysis of the data.

First, the sample was tested as a whole. Then, the sample was divided into distinct groups based on industry technology level: high technology, stable technology, and low technology (Chandler 1994; Mizik and Jacobson 2003). Tests were also performed to contrast high technology industries with stable and low technology industries combined. The operationalization of each variable in the model is discussed below. Then, the operationalization of each index also tested in the model is covered.

VARIABLE OPERATIONALIZATION

B2B Marketing Expenditures

The first of three customer-focused resources measured in this study, the role of marketing expenditures on the B2B level in marketing focuses on the firm's efforts to sell

a product or service to another firm. The literature has indicated that there may be possible double-counting if a firm reports both its Selling, General and Administrative Expenses along with Advertising Expenses. Additionally, following Mizik and Jacobson's (2003) use of financial data to determine a firm's strategic emphasis, this study used the following calculation taken from items in the Wharton Research Data Services (WRDS) Compustat database:

$$B2B = (SG\&A - Adv) / TA$$

where

B2B = B2B marketing expenditures
SG&A = Selling, General, and Administrative Expenses (DATA189)
Adv = Advertising Expenses (DATA45)
TA = Total Assets (DATA6)

B2C Marketing Expenditures

The second of three customer-focused resources studied here, the conceptual domain of B2C marketing expenditures is contrary to B2B marketing expenditures. Instead, its focus is on the firm's efforts to communicate directly to the end-user about a product or service. An appropriate calculation using data from the WRDS database was:

$$B2C = Adv / TA$$

where

B2C = B2C marketing expenditures
Adv = Advertising Expenses (DATA45)
TA = Total Assets (DATA6)

Secured Intellectual Property

The third of three customer-focused resources measured in this study, the role of secured intellectual property (SIP) deals with an exact, managerially-reported measure of a firm's intangible assets. A considerable portion of this measure is the valuation of a company's purchase of external entities (e.g., brands, strategic business units, firms to be taken over, etc.). Therefore, to determine the strategic emphasis a firm places in purchasing and valuing reported intangible assets, the following calculation with data from the WRDS database was used:

$$SIP = Intangs / TA$$

where

SIP = secured intellectual property
Intangs = Intangibles (DATA33)
TA = Total Assets (DATA6)

Sourcing Attentiveness

The first of three supply chain-focuses resources studied here, sourcing attentiveness addresses the ability of the firm to deliver value to customers. Given the continuous push for profitability, managers inherently attempt to minimize costs. Therefore, the costs saved by a firm should be translated into specific benefits that can be passed on in the value chain. The calculation used for this variable with data from the WRDS database was:

$$Sourcing = 1 - (COGS / Sales)$$

where

Sourcing = sourcing attentiveness
COGS = Cost of Goods Sold (DATA41)
Sales = Net Sales (DATA12)

Inventory Readiness

The second of three supply chain-focused resources in this study, inventory readiness quantifies the level of inventory ready for distribution or sale in the marketplace. Essentially, the level of finished goods a firm has in its inventory can be considered an indication of its responsiveness to readiness to the marketplace. The calculation used with data from the WRDS database was:

$$Inv = FG / TotInv$$

except when FG is not available, then

$$Inv = 1$$

where

Inv = inventory readiness
FG = Inventories – Finished Goods (DATA78)
TotInv = Total Inventories (DATA3)

Production Capacity

The third of three supply chain-focused resources studied here, production capacity reflects the level of production readily available for a firm's products or services. However, to measure this relative to the expenses of a firm makes to develop new or upgrade current facilities, the calculation used with data from the WRDS database was:

$$ProdCap = PPE / CapEx$$

where

ProdCap = production capacity

PPE = Net Property, Plant & Equipment (DATA8)
CapEx = Capital Expenditures (DATA128)

Discovery Expenditures

The first of three innovation-focused resources in this study, discovery expenditures provides an indication of the financial support a firm gives to its innovation efforts. Rather than measuring this variable relative to sales or assets, this study employs a third alternative - a level of a firm's liquidity. Therefore, the following calculation was used with data from the WRDS database:

$$DiscExp = R\&D / Cash\&STI$$

where

DiscExp = discovery expenditures
R&D = Research and Development Expense (DATA46)
Cash&STI = Cash and Short-Term Investments (DATA1)

Ideation Personnel Centralization

The second of three innovation-focused resources studied here, this variable indicates the level of centralization of a firm's innovation efforts. Similar to the Herfindahl index, ideation personnel centralization is measured as the percentage of a firm's registered innovations completed by its top 4 inventors. This variable is drawn from a proprietary innovation-focused database based on data from the United States Patent and Trademark Office (USPTO).

Overall Innovation Creativity

The third of three innovation-focused resources in this study, the measurement of a firm's overall innovation creativity reflects the breadth of a firm's innovation efforts. Based on data provided by the USPTO to a proprietary innovation-focused database, the creativity of an individual innovation registered by a firm is calculated as:

$$\text{Creativity}_i = 1 - \sum_j^{n_i} s_{ij}^2$$

where s_{ij} denotes the percentage of citations made by patent *i* belonging to patent class *j* from n_i patent classes.

For analysis at the level of the firm, the mean of this variable was taken from a firm's complete stock of registered innovations to determine the overall creativity of a firm's innovation efforts.

Customer Satisfaction

Reported on a scale of 0 to 100, this first measure of Marketing Equity is an overall indication of customer satisfaction drawn from proprietary data compiled by the American Customer Satisfaction Index (ACSI). This measure is a function of perceived quality, customer expectations, and perceived value among consumers.

Brand Equity

The second measure of Marketing Equity in this study, brand equity is drawn from a consumer-focused proprietary database. This measure is reported on a scale of 0 to 100. For this study, brand equity is considered a function of familiarity, brand expectations, trust, distinctiveness, purchase intent, and quality.

Corporate Reputation

Generally reported on a scale of 0 to 10, this third measure of Marketing Equity is drawn from executives, directors, and securities analysts knowledgeable about their specialized industries. The measure of corporate reputation is considered a function of a firm's innovativeness, financial soundness, employee talent, corporate asset utilization, long-term investment value, social responsibility, management quality, and product or service quality.

Return on Assets (ROA)

The first of three financial performance measures, ROA measures the general level of a firm's overall financial success. Based on data drawn from the WDRS database, the calculation used is:

$$ROA = NI / TA$$

where

ROA = return on assets
NI = Net Income (DATA172)
TA = Total Assets (DATA6)

Altman's Z

The second of three financial performance variables in this study, Altman's Z is a measure used by some banking and lending institutions to rate the overall financial risk of a firm. However, contrary to other financial performance measures used, this variable is

inversely related to financial health. Drawn from the WDRS database, the following calculation was used:

$$
\begin{aligned}
AZ = \; & ((WC / TA) * 1.2) \\
& + ((RE / TA) * 1.4) \\
& + ((EBIT / TA) * 3.3) \\
& + ((MVE / TL) * 0.6) \\
& + ((Sales / TA) * 0.999)
\end{aligned}
$$

where

AZ = Altman's Z
WC = Working Capital (DATA179)
TA = Total Assets (DATA6)
RE = Retained Earnings (DATA36)
EBIT = Earnings Before Income Taxes (or, Operating Income Before Depreciation) (DATA13)
MVE = Market Value of Equity (or, Total Stockholders' Equity) (DATA216)
TL = Total Liabilities (DATA181)
Sales = Net Sales (DATA12)

Tobin's Q

The third of three financial performance variables studied here, Tobin's Q is distinct from the conceptual domain of secured intellectual property. Rather than a tangible measure of a firm's intangibles as managerially reported, Tobin's Q is used as a measure that financial markets utilize to assess the overall present and future value of a firm's tangibles and intangibles. Therefore, the following calculation was used with data from the WRDS database:

$$TQ = (TSE + CL + LTD + DT + Intangs) / TA$$

where

TQ = Tobin's Q
TSE = Total Shareholder Equity (or, Total Stockholders' Equity) (DATA216)
CL = Current Liabilities (DATA5)

LTD = Long-Term Debt (DATA9)
DT = Deferred Taxes (DATA74)
Intangs = Intangibles (DATA33)
TA = Total Assets (DATA6)

INDEX OPERATIONALIZATION

For additional analysis in this study, indices were created for four variables to test possible overall influences in the model. Each component of the resource groups mentioned below was standardized to minimize confounding measurement effects.

Customer-focused Resources

The first of three categories of cross-functional marketing resources, customer-focused resources was measured as the standardized average of a firm's B2B marketing expenditures, B2C marketing expenditures, and secured intellectual property.

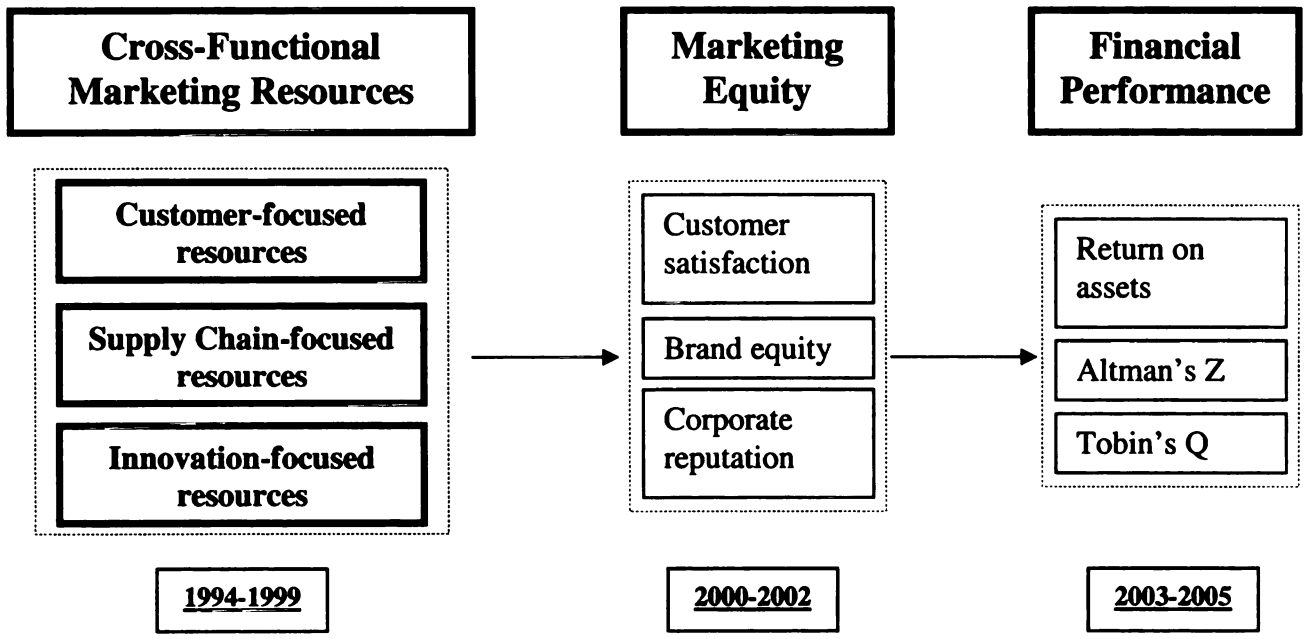
Supply Chain-focused Resources

The second of three categories of cross-functional marketing resources, supply chain-focused resources was measured as the standardized average of a firm's sourcing attentiveness, inventory readiness, and production capacity.

Innovation-focused Resources

The third of three categories of cross-functional marketing resources, innovation-focused resources was measured as the standardized average of a firm's discovery expenditures, ideation personnel centralization, and overall innovation creativity.

Figure 3: Model Including Indices of Cross-Functional Marketing Resources, Marketing Equity, and Financial Performance



control variable: lg (Sales)

Marketing Equity

The only overall measure of marketing performance in this study, two different approaches to measuring Marketing Equity were used. First, Marketing Equity was measured as the standardized average of a firm's customer satisfaction, brand equity, and corporate reputation. Second, Marketing Equity was measured as a trended standardized average of these three components.

Table 2: Correlation Matrix of Variables in Study

	B2B	B2C	SIC	SA	IR	PC	DE	IPC	OIC	CS	BE	CR	ROA	AZ	TQ
B2C marketing expenditures	**0.303***	*Customer-focused Resources*													
Secured intellectual property	**0.053**	**0.111***													
Sourcing attentiveness	0.103*	0.108*	0.097*												
Inventory readiness	-0.241*	-0.178*	-0.144*	**-0.252***	*Supply Chain-focused Resources*										
Production capacity	-0.207*	-0.046	-0.039	**-0.140***	**0.206***										
Discovery expenditures	0.025	0.014	0.138*	0.108*	-0.104*	-0.058									
Ideation personnel centralization	-0.129*	0.001	-0.066	-0.289*	0.275*	0.150*	**-0.162***	*Innovation-focused Resources*							
Overall innovation creativity	-0.090	-0.036	-0.077	-0.128	0.045	0.042	**-0.036**	**-0.017**							
Customer Satisfaction	0.057	0.097*	0.063	0.102*	-0.166*	-0.072	0.046	-0.135*	-0.039						
Brand Equity	-0.054	0.006	0.013	0.039	-0.066	-0.075	0.017	-0.105*	0.088	**0.248***	*Marketing Equity*				
Corporate Reputation	0.043	0.005	0.013	0.155*	0.007	-0.123*	0.017	-0.139*	-0.084	**0.420***	**0.353***				
Return on assets	0.132*	0.034	0.091*	0.026	-0.007	-0.115*	0.017	0.017	-0.067	0.065	-0.101*	0.188*			
Altman's Z	0.181*	0.021	0.024	-0.119*	-0.050	-0.193*	0.015	0.062	-0.037	0.171*	0.114*	0.163*	**0.140***	*Financial Performance*	
Tobin's Q	0.254*	0.137*	0.489*	0.067	-0.199*	-0.139*	0.099*	-0.120*	-0.151*	0.134*	0.013	0.039	**0.087***	**0.234***	
lg (Sales)	-0.134*	-0.205*	-0.142*	-0.113*	-0.003	0.092*	0.079*	-0.308*	0.052	0.092*	0.218*	0.224*	-0.043	0.026	-0.237*

* - p-value < 0.05 level (2-tailed)

CHAPTER FIVE

RESULTS

"Always listen to experts. They will tell you what cannot be done and why. Then do it."
– Robert Heinlein (1907-1988)

CROSS-FUNCTIONAL MARKETING RESOURCES AND MARKETING EQUITY

Customer-focused Resources and Customer Satisfaction

This study's results indicate that B2C marketing expenditures influences customer satisfaction (ß=0.268, p-value $\leq$ 0.001) in the overall sample, thus supporting H_{1b}. However, H_{1a} and H_{1c} were not supported in the overall sample. Still, both B2C marketing expenditures (ß=0.329, p-value $\leq$ 0.01) and secured intellectual property (ß=0.219, p-value $\leq$ 0.10) were found to influence customer satisfaction in high technology industries.

An index of customer-focused resources was formed based on the standardized measures of each individual customer-focused resource. This index was found to have an influence on customer satisfaction in the overall sample (ß=0.100, p-value $\leq$ 0.05). Also, customer-focused resources were found to influence customer satisfaction in a combined sub-sample of companies in stable and low technology industries combined (ß=0.197, p-value $\leq$ 0.001). Furthermore, this influence appears to be particularly influential in low technology industries (ß=0.223, p-value $\leq$ 0.001).

Table 3: Relationship Between Cross-Functional Marketing Resources and Marketing Equity Components: Overall Sample

OVERALL SAMPLE	Customer Satisfaction	Brand Equity	Corporate Reputation
B2B Marketing Expenditures	0.104	0.071	-0.076
B2C Marketing Expenditures	0.268****	0.157**	-0.082
Secured Intellectual Property	0.121	0.028	0.091
Sourcing Attentiveness	0.159*	0.073	0.324****
Inventory Readiness	0.117	-0.126	0.113
Production Capacity	0.061	-0.082	-0.157*
Discovery Expenditures	-0.031	-0.143*	-0.121
Ideation Personnel Centralization	-0.020	0.038	-0.010
Overall Innovation Creativity	0.018	0.147**	-0.172**
Sales_lg10	0.134	0.373****	0.256***
Adjusted R^2	0.123****	0.145****	0.148****
Observations	160	160	153

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

OVERALL SAMPLE	Customer Satisfaction	Brand Equity	Corporate Reputation
Customer-focused resources and capabilities	0.100**	0.031	0.058
Supply chain-focused resources and capabilities	-0.033	-0.041	0.053
Innovation-focused resources and capabilities	-0.052	-0.004	-0.053
Sales_lg10	0.107	0.223****	0.225****
Adjusted R^2	0.018***	0.045****	0.053****
Observations	693	693	627

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 4: Relationship Between Cross-Functional Marketing Resources and Marketing Equity Components: High Technology Sub-Sample

HIGH TECHNOLOGY	Customer Satisfaction	Brand Equity	Corporate Reputation
B2B Marketing Expenditures	-0.035	-0.042	-0.075
B2C Marketing Expenditures	0.329***	0.087	-0.212*
Secured Intellectual Property	0.219*	0.083	-0.001
Sourcing Attentiveness	0.080	-0.112	0.304**
Inventory Readiness	-0.061	-0.194	0.128
Production Capacity	-0.127	0.067	0.050
Discovery Expenditures	-0.146	-0.253**	-0.197*
Ideation Personnel Centralization	-0.153	-0.097	0.012
Overall Innovation Creativity	0.016	-0.031	-0.203*
Sales_lg10	-0.061	0.260**	0.176
Adjusted R^2	0.118**	0.034	0.145**
Observations	78	78	76

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

HIGH TECHNOLOGY	Customer Satisfaction	Brand Equity	Corporate Reputation
Customer-focused resources and capabilities	0.023	0.042	0.019
Supply chain-focused resources and capabilities	0.030	-0.066	0.102
Innovation-focused resources and capabilities	-0.042	-0.035	-0.107
Sales_lg10	-0.001	0.204***	0.150**
Adjusted R^2	-0.015	0.030**	0.030**
Observations	230	230	205

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 5: Relationship Between Cross-Functional Marketing Resources and Marketing Equity Components: Stable & Low Technology Sub-Sample

STABLE & LOW TECHNOLOGY	Customer Satisfaction	Brand Equity	Corporate Reputation
B2B Marketing Expenditures	0.168	0.154	-0.122
B2C Marketing Expenditures	0.092	0.201*	0.060
Secured Intellectual Property	0.075	-0.015	0.175
Sourcing Attentiveness	0.331**	0.205	0.350**
Inventory Readiness	0.169	-0.108	0.122
Production Capacity	0.158	-0.131	-0.257**
Discovery Expenditures	-0.003	-0.140	-0.118
Ideation Personnel Centralization	0.000	0.138	0.014
Overall Innovation Creativity	-0.016	0.261***	-0.167
Sales_lg10	0.298***	0.421****	0.297**
Adjusted R^2	0.255****	0.338****	0.120**
Observations	82	82	77

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

STABLE & LOW TECHNOLOGY	Customer Satisfaction	Brand Equity	Corporate Reputation
Customer-focused resources and capabilities	0.197****	0.039	0.083*
Supply chain-focused resources and capabilities	-0.052	-0.041	0.042
Innovation-focused resources and capabilities	-0.058	0.023	-0.011
Sales_lg10	0.169****	0.239****	0.263****
Adjusted R^2	0.068****	0.049****	0.064****
Observations	463	463	422

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 6: Relationship Between Cross-Functional Marketing Resources and Marketing Equity Components: Stable Technology Mini-Sample

STABLE TECHNOLOGY	Customer Satisfaction	Brand Equity	Corporate Reputation
B2B Marketing Expenditures	-0.238	-0.058	-0.123
B2C Marketing Expenditures	0.131	0.541***	0.265
Secured Intellectual Property	-0.004	-0.121	-0.068
Sourcing Attentiveness	0.160	-0.142	0.161
Inventory Readiness	-0.145	-0.416**	-0.032
Production Capacity	-0.204	0.028	-0.135
Discovery Expenditures	0.060	0.069	0.004
Ideation Personnel Centralization	0.299	0.161	0.330
Overall Innovation Creativity	0.188	0.408**	0.011
Sales_lg10	0.608***	0.343*	0.502**
Adjusted R^2	0.224*	0.347**	0.235*
Observations	37	37	36

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

STABLE TECHNOLOGY	Customer Satisfaction	Brand Equity	Corporate Reputation
Customer-focused resources and capabilities	0.034	0.160**	0.127*
Supply chain-focused resources and capabilities	-0.127*	-0.105*	0.073
Innovation-focused resources and capabilities	-0.042	-0.068	0.035
Sales_lg10	0.099	0.343****	0.386****
Adjusted R^2	0.019*	0.151****	0.123****
Observations	244	244	218

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 7: Relationship Between Cross-Functional Marketing Resources and Marketing Equity Components: Stable Technology Mini-Sample

LOW TECHNOLOGY	Customer Satisfaction	Brand Equity	Corporate Reputation
B2B Marketing Expenditures	0.194	0.338*	-0.063
B2C Marketing Expenditures	0.113	0.120	-0.107
Secured Intellectual Property	0.160	0.066	0.371*
Sourcing Attentiveness	0.327	0.286	0.306
Inventory Readiness	0.294*	0.043	0.250
Production Capacity	0.063	-0.217	-0.317*
Discovery Expenditures	-0.008	-0.333**	-0.124
Ideation Personnel Centralization	-0.061	0.195	-0.183
Overall Innovation Creativity	-0.113	0.124	-0.269
Sales_lg10	0.319**	0.520****	0.170
Adjusted R^2	0.261**	0.424****	0.031
Observations	45	45	41

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

LOW TECHNOLOGY	Customer Satisfaction	Brand Equity	Corporate Reputation
Customer-focused resources and capabilities	0.223****	-0.039	0.047
Supply chain-focused resources and capabilities	0.290	0.140**	0.042
Innovation-focused resources and capabilities	-0.035	0.104	-0.049
Sales_lg10	0.247****	0.186***	0.159**
Adjusted R^2	0.104****	0.045***	0.016
Observations	219	219	204

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Supply Chain-focused Resources and Customer Satisfaction

This study's results indicate that only H_{1d} is partially supported in the overall sample. Sourcing attentiveness was found to influence customer satisfaction (ß=0.159, p-value ≤ 0.10). However, H_{1e} and H_{1f} were not supported. Still, the influence of sourcing attentiveness appears more prominently in a combined sub-sample of firms in stable and low technology industries (ß=0.331, p-value ≤ 0.05). Also, inventory readiness has a partial influence on customer satisfaction in low technology industries (ß=0.294, p-value ≤ 0.10)

Additionally, an index of supply chain-focused resources was formed based on the standardized measures of each individual supply chain-focused resource. This index was found to slightly influence customer satisfaction in the stable technology sub-sample (ß=-0.127, p-value ≤ 0.10).

Innovation-focused Resources and Customer Satisfaction

The study's results indicate that none of the measures used to test the influence of innovation-focused resources on customer satisfaction were statistically significant. Thus, H_{1g}, H_{1h}, and H_{1i} were not supported in the overall sample. In addition, no influences were found in the sub-sample tests performed.

Customer-focused Resources and Brand Equity

The results indicate that B2C marketing expenditures influence brand equity in the overall sample (ß=0.157, p-value ≤ 0.05), thus supporting H_{2b}. H_{2a} and H_{2c} were not supported in the overall sample. Still, B2C marketing expenditures has a mild influence

on brand equity in the stable and low technology sub-sample (ß=0.201, p-value ≤ 0.10). This relationship appears more clearly in the stable technology sub-sample (ß=0.541, p-value ≤ 0.01).

Additionally, the customer-focused resources index was not found to influence brand equity in the overall sample. However, this relationship was found to be statistically significant in the stable technology sub-sample (ß=0.160, p-value ≤ 0.05).

Supply Chain-focused Resources and Brand Equity

Generally, little evidence was found in the overall sample for the relationships posited between each supply chain-focused resource and brand equity. Therefore, H_{2d}, H_{2e}, and H_{2f} are rejected in this model. However, a negative relationship between inventory readiness and brand equity was found in the stable technology sub-sample (ß=-0.416, p-value ≤ 0.05).

Interestingly, the supply chain-focused resources index was found to have a negative influence on brand equity among stable technology firms (ß=-0.105, p-value ≤ 0.10), but a positive influence as found in the low technology industry sub-sample (ß=0.140, p-value ≤ 0.05).

Innovation-focused Resources and Brand Equity

This study's results indicate a negative influence of discovery expenditures (ß=-0.143, p-value ≤ 0.10) and positive influence of overall innovation creativity (ß=0.147, p-value ≤ 0.05) in the overall sample, thus supporting H_{2i} and presenting contradictory evidence for H_{2g}. Little evidence was found to support H_{2h}.

In fact, the negative relationship between discovery expenditures and brand equity were quite evident in the high technology (ß=-0.253, p-value $\leq$ 0.05) and low technology (ß=0.333, p-value $\leq$ 0.05) sub-samples. Meanwhile, support for H_{2i} was found among stable and low technology firms (ß=0.261, p-value $\leq$ 0.01) and was particularly strong in the stable technology sub-sample (ß=0.408, p-value $\leq$ 0.05).

Customer-focused Resources and Corporate Reputation

The study did not find any support for H_{3a}, H_{3b}, or H_{3c} in the overall sample. However, a mild negative relationship was found between B2C marketing expenditures and corporate reputation among high technology firms (ß=-0.212, p-value $\leq$ 0.10). In addition, secured intellectual property seemed to influence corporate reputation in the low technology sub-sample (ß=0.371, p-value $\leq$ 0.10).

The customer-focused resources index created for this study was found to mildly influence corporate reputation in the stable and low technology sub-sample (ß=0.083, p-value $\leq$ 0.10). Additionally, this influence appears most prominently among stable technology companies (ß=0.127, p-value $\leq$ 0.10).

Supply Chain-focused Resources and Corporate Reputation

The study found that sourcing attentiveness influences corporate reputation (ß=0.324, p-value $\leq$ 0.0001), thus supporting H_{3d}. Additionally, production capacity was found to negatively influence corporate reputation (ß=-0.157, p-value $\leq$ 0.10), thus partially contradicting H_{3f}. Little evidence was found to support H_{3e}.

Sourcing attentiveness appeared to influence corporate reputation in both the high technology (ß=0.304, p-value $\leq$ 0.10) and stable and low technology (ß=0.350, p-value $\leq$ 0.10) sub-samples. Also, the negative relationship between production capacity and corporate reputation was detected in the stable and low technology sub-sample (ß=-0.257, p-value $\leq$ 0.05). In fact, it appears this relationship was most influenced by the low technology sub-sample (ß=0.371, p-value $\leq$ 0.10).

Innovation-focused Resources and Corporate Reputation

Findings from this study show that overall innovation creativity has a negative influence on corporate reputation (ß=-0.172, p-value $\leq$ 0.05), thus contradicting H_{3i}. No support was found for H_{3g} or H_{3h}. Also, negative influences of both discovery expenditures (ß=-0.197, p-value $\leq$ 0.10) and overall innovation creativity (ß=-0.203, p-value $\leq$ 0.10) on corporate reputation were found in the high technology industry sub-sample.

Table 8: Relationship Between Cross-Functional Marketing Resources and Marketing Equity Index: Overall Sample

OVERALL SAMPLE	Marketing Equity, Avg.	Marketing Equity, Trend
B2B Marketing Expenditures	0.088	0.099
B2C Marketing Expenditures	0.287****	0.250****
Secured Intellectual Property	0.076	0.045
Sourcing Attentiveness	0.160*	0.068
Inventory Readiness	-0.039	-0.150*
Production Capacity	0.024	-0.038
Discovery Expenditures	-0.140*	-0.147*
Ideation Personnel Centralization	-0.017	0.021
Overall Innovation Creativity	0.023	0.057
Sales_lg10	0.362****	0.347****
Adjusted R^2	0.212****	0.163***
Observations	160	160

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

OVERALL SAMPLE	Marketing Equity, Avg.	Marketing Equity, Trend
Customer-focused resources and capabilities	0.111***	0.146****
Supply chain-focused resources and capabilities	0.013	0.041
Innovation-focused resources and capabilities	-0.068*	-0.065*
Sales_lg10	0.279****	0.138****
Adjusted R^2	0.080****	0.032****
Observations	693	693

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 9: Relationship Between Cross-Functional Marketing Resources and Marketing Equity Index: High Technology Sub-Sample

HIGH TECHNOLOGY	Marketing Equity, Avg.	Marketing Equity, Trend
B2B Marketing Expenditures	-0.034	0.038
B2C Marketing Expenditures	0.181	0.096
Secured Intellectual Property	0.084	0.043
Sourcing Attentiveness	-0.017	-0.151
Inventory Readiness	-0.125	-0.207
Production Capacity	0.033	0.098
Discovery Expenditures	-0.286**	-0.232*
Ideation Personnel Centralization	-0.126	-0.102
Overall Innovation Creativity	-0.069	-0.047
Sales_lg10	0.223*	0.241*
Adjusted R^2	0.036	0.020
Observations	78	78

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

HIGH TECHNOLOGY	Marketing Equity, Avg.	Marketing Equity, Trend
Customer-focused resources and capabilities	0.028	0.149**
Supply chain-focused resources and capabilities	0.006	-0.067
Innovation-focused resources and capabilities	-0.064	-0.115*
Sales_lg10	0.218***	0.070
Adjusted R^2	0.035**	0.022*
Observations	230	230

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 10: Relationship Between Cross-Functional Marketing Resources and Marketing Equity Index: Stable & Low Technology Sub-Sample

STABLE & LOW TECHNOLOGY	Marketing Equity, Avg.	Marketing Equity, Trend
B2B Marketing Expenditures	0.115	0.103
B2C Marketing Expenditures	0.362****	0.388****
Secured Intellectual Property	0.061	0.067
Sourcing Attentiveness	0.357***	0.310***
Inventory Readiness	-0.029	-0.119
Production Capacity	0.065	-0.094
Discovery Expenditures	-0.092	-0.157*
Ideation Personnel Centralization	0.061	0.126
Overall Innovation Creativity	0.074	0.129
Sales_lg10	0.428****	0.391****
Adjusted R^2	0.503****	0.488****
Observations	82	82

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

STABLE & LOW TECHNOLOGY	Marketing Equity, Avg.	Marketing Equity, Trend
Customer-focused resources and capabilities	0.232****	0.145***
Supply chain-focused resources and capabilities	0.027	0.087*
Innovation-focused resources and capabilities	-0.069	-0.019
Sales_lg10	0.308****	0.190****
Adjusted R^2	0.138****	0.046****
Observations	463	463

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 11: Relationship Between Cross-Functional Marketing Resources and Marketing Equity Index: Stable Technology Mini-Sample

STABLE TECHNOLOGY	Marketing Equity, Avg.	Marketing Equity, Trend
B2B Marketing Expenditures	-0.135	-0.005
B2C Marketing Expenditures	0.442**	0.611***
Secured Intellectual Property	-0.115	-0.139
Sourcing Attentiveness	-0.026	-0.079
Inventory Readiness	-0.253	-0.366**
Production Capacity	0.004	-0.036
Discovery Expenditures	0.040	0.022
Ideation Personnel Centralization	0.243	0.254
Overall Innovation Creativity	0.308*	0.287*
Sales_lg10	0.546***	0.351*
Adjusted R^2	0.335**	0.394***
Observations	37	37

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

STABLE TECHNOLOGY	Marketing Equity, Avg.	Marketing Equity, Trend
Customer-focused resources and capabilities	0.134**	0.162**
Supply chain-focused resources and capabilities	-0.006	0.119*
Innovation-focused resources and capabilities	-0.026	-0.012
Sales_lg10	0.337****	0.243****
Adjusted R^2	0.105***	0.054***
Observations	244	244

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 12: Relationship Between Cross-Functional Marketing Resources and Marketing Equity Index: Low Technology Mini-Sample

LOW TECHNOLOGY	Marketing Equity, Avg.	Marketing Equity, Trend
B2B Marketing Expenditures	0.075	0.042
B2C Marketing Expenditures	0.410****	0.417****
Secured Intellectual Property	0.128	0.097
Sourcing Attentiveness	0.455****	0.412***
Inventory Readiness	0.025	-0.108
Production Capacity	-0.103	-0.226**
Discovery Expenditures	-0.045	-0.151
Ideation Personnel Centralization	0.020	0.110
Overall Innovation Creativity	-0.087	0.006
Sales_lg10	0.494****	0.500****
Adjusted R^2	0.687****	0.631****
Observations	45	45

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

LOW TECHNOLOGY	Marketing Equity, Avg.	Marketing Equity, Trend
Customer-focused resources and capabilities	0.219****	0.113
Supply chain-focused resources and capabilities	0.122*	0.091
Innovation-focused resources and capabilities	-0.073	-0.017
Sales_lg10	0.304****	0.159**
Adjusted R^2	0.159****	0.030**
Observations	219	219

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Customer-focused Resources and Marketing Equity

B2C marketing expenditures was found to influence both the averaged Marketing Equity measure (ß=0.287, p-value ≤ 0.001) and the trended Marketing Equity measure (ß=0.250, p-value ≤ 0.001) in the overall sample, thus showing the relative stability of this relationship. However, these relationships were detected in the stable and low technology sub-sample (Marketing Equity average: ß=0.362, p-value ≤ 0.001; Marketing Equity trend: ß=0.388, p-value ≤ 0.001). The relationship between B2C marketing expenditures and Marketing Equity appeared more prominently among low technology firms (Marketing Equity average: ß=0.410, p-value ≤ 0.001; Marketing Equity trend: ß=0.417, p-value ≤ 0.001), but it also was found among stable technology firms (Marketing Equity average: ß=0.442, p-value ≤ 0.05; Marketing Equity trend: ß=0.611, p-value ≤ 0.01).

Additionally, the customer-focused resources index used above was found to influence the Marketing Equity average (ß=0.111, p-value ≤ 0.01) and the Marketing Equity trend (ß=0.146, p-value ≤ 0.001) in the overall sample. Among high technology firms, customer-focused resources influenced this study's trended Market Equity variable (ß=0.149, p-value ≤ 0.05). This index was found to influence both variations of Marketing Equity among stable and low technology firms (Marketing Equity average: ß=0.232, p-value ≤ 0.001; Marketing Equity trend: ß=0.145, p-value ≤ 0.01). Similar results were found in a more detailed analysis of only stable technology firms (Marketing Equity average: ß=0.134, p-value ≤ 0.05; Marketing Equity trend: ß=0.162, p-value ≤

0.05). However, in the low technology industry sub-sample, only the average Marketing Equity measure was influenced (ß=0.219, p-value ≤ 0.001).

Supply Chain-focused Resources and Marketing Equity

Sourcing attentiveness was found to somewhat influence the averaged Marketing Equity measure in the overall sample (ß=0.160, p-value ≤ 0.10). Additionally, inventory readiness was found to have a partial negative influence on the trended Marketing Equity measure (ß=-0.150, p-value ≤ 0.10) in the full sample. Sourcing attentiveness had a strong influence in the stable and low technology industries (Marketing Equity average: ß=0.357, p-value ≤ 0.01; Marketing Equity trend: ß=0.310, p-value ≤ 0.01) as well as in the more exact sub-sample of low technology firms (Marketing Equity average: ß=0.455, p-value ≤ 0.001; Marketing Equity trend: ß=0.417, p-value ≤ 0.001). Meanwhile, inventory readiness was found to only influence the trended Marketing Equity measure in the stable technology sub-sample (ß=-0.366, p-value ≤ 0.05).

The supply chain-focused resources index was found to influence the trended Marketing Equity measure among stable and low technology firms (ß=0.087, p-value ≤ 0.10). This was also apparent in the stable technology industry sub-sample (ß=0.119, p-value ≤ 0.10). Interestingly, this index was found to influence the averaged Marketing Equity measure among low technology firms (ß=0.122, p-value ≤ 0.10).

Innovation-focused Resources and Marketing Equity

Discovery expenditures was found to have a slight negative influence on both measures of Marketing Equity in the overall sample (Marketing Equity average: ß=-

0.140, p-value ≤ 0.10; Marketing Equity trend: ß=-0.147, p-value ≤ 0.10). This relationship was particularly prevalent among high technology firms (Marketing Equity average: ß=-0.286, p-value ≤ 0.05; Marketing Equity trend: ß=-0.232, p-value ≤ 0.10). Additionally, discovery expenditures was found to influence the trended Marketing Equity measure in the stable and low technology sub-sample (ß=-0.157, p-value ≤ 0.10).

In the overall sample, the innovation-focused resources index had a mild negative influence on both Marketing Equity measures (Marketing Equity average: ß=-0.068, p-value ≤ 0.10; Marketing Equity trend: ß=-0.065, p-value ≤ 0.10). This negative relationship was also detected on the trended Marketing Equity measure among high technology firms (ß=-0.115, p-value ≤ 0.10).

CROSS-FUNCTIONAL MARKETING RESOURCES AND FINANCIAL PERFORMANCE

Customer-focused Resources and ROA

The current study indicates that B2C marketing expenditures mildly influence ROA in the overall sample (ß=0.130, p-value ≤ 0.10). This relationship was also detected in the stable technology industry sub-segment (ß=0.327, p-value ≤ 0.10).

The customer-focused resources index was found to influence ROA in the overall sample (ß=0.106, p-value ≤ 0.05). This relationship was also detected in the high technology (ß=0.124, p-value ≤ 0.10) and stable technology (ß=0.259, p-value ≤ 0.001) sub-samples.

Table 13: Relationship Between Cross-Functional Marketing Resources and Financial Performance: Overall Sample

OVERALL SAMPLE	Return on Assets (ROA)	Altman's Z	Tobin's Q
B2B Marketing Expenditures	0.091	0.201**	0.171**
B2C Marketing Expenditures	0.130*	0.075	0.078
Secured Intellectual Property	0.074	0.014	0.421****
Sourcing Attentiveness	0.362****	0.120	0.060
Inventory Readiness	0.096	0.066	0.248****
Production Capacity	-0.083	-0.276****	-0.035
Discovery Expenditures	-0.066	-0.156**	0.103
Ideation Personnel Centralization	0.032	0.115	-0.024
Overall Innovation Creativity	-0.082	-0.028	-0.161**
Sales_lg10	0.161**	-0.040	-0.122
Adjusted R^2	0.176****	0.172****	0.260****
Observations	160	160	160

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

OVERALL SAMPLE	Return on Assets (ROA)	Altman's Z	Tobin's Q
Customer-focused resources and capabilities	0.106**	0.089**	0.387****
Supply chain-focused resources and capabilities	-0.004	-0.201****	-0.104***
Innovation-focused resources and capabilities	0.019	-0.030	-0.066*
Sales_lg10	-0.019	0.034	-0.175****
Adjusted R^2	0.006*	0.049****	0.226****
Observations	613	613	613

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 14: Relationship Between Cross-Functional Marketing Resources and Financial Performance: High Technology Sub-Sample

HIGH TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
B2B Marketing Expenditures	0.195	0.136	0.065
B2C Marketing Expenditures	0.031	0.040	0.024
Secured Intellectual Property	0.159	-0.041	0.461****
Sourcing Attentiveness	0.305**	0.168	0.081
Inventory Readiness	-0.047	-0.022	0.202**
Production Capacity	-0.060	-0.257**	-0.085
Discovery Expenditures	-0.065	-0.151	0.141
Ideation Personnel Centralization	-0.035	0.041	0.164*
Overall Innovation Creativity	0.075	0.136	-0.212**
Sales_lg10	0.187	-0.001	-0.321****
Adjusted R^2	0.216*	0.087*	0.436****
Observations	78	78	78

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

HIGH TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Customer-focused resources and capabilities	0.124*	0.061	0.309****
Supply chain-focused resources and capabilities	0.026	-0.047	0.091
Innovation-focused resources and capabilities	0.022	-0.021	-0.047
Sales_lg10	-0.043	0.108	-0.266****
Adjusted R^2	0.003	-0.002	0.205****
Observations	212	212	212

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 15: Relationship Between Cross-Functional Marketing Resources and Financial Performance: Stable & Low Technology Sub-Sample

STABLE & LOW TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
B2B Marketing Expenditures	-0.058	0.312**	0.137
B2C Marketing Expenditures	0.150	0.101	0.092
Secured Intellectual Property	0.108	0.103	0.398****
Sourcing Attentiveness	0.470****	0.048	0.074
Inventory Readiness	0.216*	0.131	0.270**
Production Capacity	-0.130	-0.300***	0.037
Discovery Expenditures	-0.87	-0.201*	0.064
Ideation Personnel Centralization	0.021	0.157	-0.065
Overall Innovation Creativity	-0.186*	-0.181*	-0.159
Sales_lg10	0.124	-0.081	-0.012
Adjusted R^2	0.201***	0.217***	0.176***
Observations	82	82	82

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided);
* - p-value ≤ 0.10 level (two-sided)

STABLE & LOW TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Customer-focused resources and capabilities	0.044	0.159****	0.460****
Supply chain-focused resources and capabilities	-0.092*	-0.336****	-0.104**
Innovation-focused resources and capabilities	0.012	-0.030	-0.041
Sales_lg10	0.054	-0.043	-0.144****
Adjusted R^2	0.004	0.160****	0.279****
Observations	401	401	401

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided);
* - p-value ≤ 0.10 level (two-sided)

Table 16: Relationship Between Cross-Functional Marketing Resources and Financial Performance: Stable Technology Mini-Sample

STABLE TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
B2B Marketing Expenditures	0.160	0.440***	0.056
B2C Marketing Expenditures	0.327*	0.327*	0.169
Secured Intellectual Property	0.017	-0.003	0.631***
Sourcing Attentiveness	0.201	-0.019	-0.203
Inventory Readiness	0.167	0.181	0.078
Production Capacity	0.092	-0.020	0.021
Discovery Expenditures	-0.107	-0.175	0.002
Ideation Personnel Centralization	-0.047	0.048	0.287
Overall Innovation Creativity	-0.514***	-0.326**	-0.503***
Sales_lg10	-0.169	-0.321*	0.242
Adjusted R^2	0.362***	0.482****	0.262**
Observations	37	37	37

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

STABLE TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Customer-focused resources and capabilities	0.259****	0.309****	0.459****
Supply chain-focused resources and capabilities	-0.073	-0.324****	-0.060
Innovation-focused resources and capabilities	-0.005	-0.085	-0.048
Sales_lg10	0.034	-0.137**	-0.192***
Adjusted R^2	0.064***	0.290****	0.286****
Observations	209	209	209

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 17: Relationship Between Cross-Functional Marketing Resources and Financial Performance: Low Technology Mini-Sample

LOW TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
B2B Marketing Expenditures	-0.335	0.157	-0.057
B2C Marketing Expenditures	0.113	-0.037	0.036
Secured Intellectual Property	0.133	0.042	0.368**
Sourcing Attentiveness	0.735****	0.142	0.139
Inventory Readiness	0.204	-0.060	0.234
Production Capacity	-0.110	-0.324*	0.015
Discovery Expenditures	-0.037	-0.181	0.279*
Ideation Personnel Centralization	-0.019	0.110	-0.355**
Overall Innovation Creativity	-0.029	-0.121	-0.160
Sales_lg10	0.269*	0.043	-0.057
Adjusted R^2	0.273**	-0.021	0.331***
Observations	45	45	45

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

LOW TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Customer-focused resources and capabilities	-0.119	-0.015	0.478****
Supply chain-focused resources and capabilities	0.010	-0.237****	0.010
Innovation-focused resources and capabilities	0.029	0.019	-0.025
Sales_lg10	0.127*	0.115	-0.003
Adjusted R^2	0.012	0.047**	0.217****
Observations	192	192	192

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided); ** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Customer-focused Resources and Altman's Z

Findings also indicate that B2B marketing expenditures positively influence Altman's Z in the overall sample (ß=0.201, p-value $\leq$ 0.05). Similar findings were found in the stable and low technology (ß=0.312, p-value $\leq$ 0.05) and stable technology (ß=0.440, p-value $\leq$ 0.01) sub-segments. Also, findings show that B2C marketing expenditures positively influence Altman's Z among stable technology firms (ß=0.327, p-value $\leq$ 0.10).

The customer-focused resources index was found to positively influence Altman's Z in the overall sample (ß=0.089, p-value $\leq$ 0.05). This relationship was also found in the stable and low technology (ß=0.159, p-value $\leq$ 0.001) and the stable technology (ß=0.309, p-value $\leq$ 0.001) sub-segments.

Customer-focused Resources and Tobin's Q

This study's findings indicate that both B2B marketing expenditures and secured intellectual property influence Tobin's Q in the overall sample (B2B marketing expenditures: ß=0.171, p-value $\leq$ 0.05; secured intellectual property: ß=0.421, p-value $\leq$ 0.001). The influence of secured intellectual property on Tobin's Q is consistent across the many sub-samples tested. Findings among high technology (ß=0.461, p-value $\leq$ 0.001), stable and low technology (ß=0.398, p-value $\leq$ 0.001), stable technology (ß=0.631, p-value $\leq$ 0.01), and low technology (ß=0.368, p-value $\leq$ 0.05) firms indicates the wide-reaching influence of secured intellectual property on a firm's Tobin's Q.

The customer-focused resources index was found to influence Tobin's Q in the overall sample (ß=0.387, p-value ≤ 0.001). Likewise, this relationship was found consistently across this study's high technology (ß=0.309, p-value ≤ 0.001), stable and low technology (ß=0.460, p-value ≤ 0.001), stable technology (ß=0.459, p-value ≤ 0.01), and low technology (ß=0.478, p-value ≤ 0.05) sub-segments.

Supply Chain-focused Resources and ROA

Interestingly, this study indicates that sourcing attentiveness has a positive influence on ROA in the overall sample (ß=0.362, p-value ≤ 0.001). Similar results were found for the high technology (ß=0.305, p-value ≤ 0.05), stable and low technology (ß=0.470, p-value ≤ 0.001), and low technology (ß=0.735, p-value ≤ 0.001) sub-segments. Additionally, a positive relationship between inventory readiness and ROA was detected in the stable and low technology sub-sample (ß=0.216, p-value ≤ 0.10).

Contrary to expectations, the supply chain-focused resources index was found to negatively influence ROA only in the stable and low technology sub-sample (ß=-0.092, p-value ≤ 0.10).

Supply Chain-focused Resources and Altman's Z

Production capacity was found to negatively influence Altman's Z in the overall sample (ß=-0.276, p-value ≤ 0.001). This relationship was also detected in the high technology (ß=-0.257, p-value ≤ 0.05), stable and low technology (ß=-0.300, p-value ≤ 0.01), and low technology (ß=-0.324, p-value ≤ 0.10) sub-segments.

A negative relationship between the supply chain-focused resources index and Altman's Z was found in the overall sample (ß=-0.201, p-value ≤ 0.001). Additionally, similar results were found in the stable and low technology sub-segments (ß=-0.336, p-value ≤ 0.001) as well as some stable technology (ß=-0.324, p-value ≤ 0.001) and low technology (ß=-0.237, p-value ≤ 0.001) firms.

Supply Chain-focused Resources and Tobin's Q

In the overall sample, this study's findings indicate that inventory readiness is positively related to Tobin's Q (ß=0.248, p-value ≤ 0.001). Similar results were found in the high technology (ß=0.202, p-value ≤ 0.05) and stable and low technology (ß=0.270, p-value ≤ 0.05) sub-samples.

Interestingly, a negative relationship was found between the supply chain-focused resources index and Tobin's Q in the overall sample (ß=-0.104, p-value ≤ 0.001). Additionally, this relationship was found in the stable and low technology sub-sample (ß=-0.104, p-value ≤ 0.05).

Innovation-focused Resources and ROA

Overall innovation creativity was detected to have a negative influence on ROA in the stable and low technology industry sub-segment (ß=-0.186, p-value ≤ 0.10). This relationship was considerably stronger among stable technology firms (ß=-0.514, p-value ≤ 0.01).

Innovation-focused Resources and Altman's Z

This study's findings indicate that a negative statistical relationship exists between discovery expenditures and Altman's Z in the overall sample (ß=-0.156, p-value $\leq$ 0.05). Also, this relationship was detected in the stable and low technology industry sub-sample (ß=-0.201, p-value $\leq$ 0.10). Additionally, overall innovation creativity appears to be related negatively with Altman's Z in the stable and low technology industry sub-sample (ß=-0.181, p-value $\leq$ 0.10). More precisely, this relationship appears most prominently among stable technology firms (ß=-0.326, p-value $\leq$ 0.05).

Innovation-focused Resources and Tobin's Q

Findings indicate that overall innovation creativity has a negative influence on Tobin's Q in the overall sample (ß=-0.161, p-value $\leq$ 0.05). This relationship was found in the high technology industry sub-sample (ß=-0.212, p-value $\leq$ 0.05) as well as among stable technology firms (ß=-0.503, p-value $\leq$ 0.01). Also, discovery expenditures were detected to have a positive influence on Tobin's Q (ß=0.279, p-value $\leq$ 0.10) among low technology firms. Additionally, a positive relationship was detected between ideation personnel centralization and Tobin's Q in the high technology sub-sample (ß=0.164, p-value $\leq$ 0.10). Interestingly, a negative relationship was found between ideation personnel centralization and low technology firms (ß=-0.355, p-value $\leq$ 0.05).

This study's findings also show a mild negative relationship between the innovation-focused resources index and Tobin's Q (ß=-0.066, p-value $\leq$ 0.10).

MARKETING EQUITY AND FINANCIAL PERFORMANCE

As noted below, sufficient evidence exists for marketing equity and its components to mediate the relationship between cross-functional marketing resources and financial performance.

Table 18: Relationship Between Marketing Equity and Financial Performance: Overall Sample

OVERALL SAMPLE	Return on Assets (ROA)	Altman's Z	Tobin's Q
Customer Satisfaction	0.170****	0.098**	0.178****
Brand Equity	0.130**	0.042	-0.013
Corporate Reputation	0.078	0.109**	0.020
Sales_lg10	-0.033	-0.016	-0.224****
Adjusted R^2	0.074****	0.030***	0.073***
Observations	562	562	562

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

OVERALL SAMPLE	Return on Assets (ROA)	Altman's Z	Tobin's Q
Marketing Equity, Avg.	-0.081*	0.160****	0.144****
Sales_lg10	-0.022	-0.015	-0.273****
Adjusted R^2	0.005*	0.021***	0.072****
Observations	613	613	613

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

OVERALL SAMPLE	Return on Assets (ROA)	Altman's Z	Tobin's Q
Marketing Equity, Trend	-0.059	0.067	0.093**
Sales_lg10	-0.036	0.018	-0.247****
Adjusted R^2	0.002	0.002	0.061****
Observations	613	613	613

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 19: Relationship Between Marketing Equity and Financial Performance: High Technology Sub-Sample

HIGH TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Customer Satisfaction	0.264****	0.118	0.178**
Brand Equity	0.085	-0.005	-0.045
Corporate Reputation	0.084	0.200**	0.160**
Sales_lg10	0.054	0.116	-0.278****
Adjusted R^2	0.128****	0.071****	0.132****
Observations	192	192	192

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

HIGH TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Marketing Equity, Avg.	-0.172**	0.164**	0.098
Sales_lg10	-0.046	0.068	-0.373****
Adjusted R^2	0.026**	0.027**	0.125****
Observations	212	212	212

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

HIGH TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Marketing Equity, Trend	-0.128*	0.089	0.111*
Sales_lg10	-0.075	0.097	-0.359****
Adjusted R^2	0.014*	0.009	0.128****
Observations	212	212	212

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 20: Relationship Between Marketing Equity and Financial Performance: Stable & Low Technology Sub-Sample

STABLE & LOW TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Customer Satisfaction	0.109*	0.113**	0.209****
Brand Equity	0.135**	0.067	0.018
Corporate Reputation	0.083	0.049	-0.019
Sales_lg10	-0.073	-0.140***	-0.229****
Adjusted R^2	0.045****	0.028***	0.072****
Observations	370	370	370

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

STABLE & LOW TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Marketing Equity, Avg.	0.193****	0.169****	0.223****
Sales_lg10	-0.013	-0.116**	-0.261****
Adjusted R^2	0.031****	0.026***	0.079****
Observations	401	401	401

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

STABLE & LOW TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Marketing Equity, Trend	0.147***	0.046	0.111**
Sales_lg10	0.019	-0.074	-0.214****
Adjusted R^2	0.018***	0.001	0.046
Observations	401	401	401

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 21: Relationship Between Marketing Equity and Financial Performance: Stable Technology Mini-Sample

STABLE TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Customer Satisfaction	-0.080	0.104	0.054
Brand Equity	0.198**	0.178**	0.160*
Corporate Reputation	0.224**	-0.151	-0.060
Sales_lg10	-0.121	-0.171**	-0.269***
Adjusted R^2	0.084****	0.050***	0.072****
Observations	188	188	188

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

STABLE TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Marketing Equity, Avg.	0.135*	0.031	0.115*
Sales_lg10	-0.046	-0.180**	-0.293****
Adjusted R^2	0.008	0.021**	0.074****
Observations	209	209	209

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

STABLE TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Marketing Equity, Trend	0.115*	0.021**	0.155**
Sales_lg10	-0.024	-0.027	-0.280****
Adjusted R^2	0.004	-0.169**	0.085****
Observations	209	209	209

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 22: Relationship Between Marketing Equity and Financial Performance: Low Technology Mini-Sample

LOW TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Customer Satisfaction	0.114	-0.052	0.161**
Brand Equity	0.119	-0.007	-0.133*
Corporate Reputation	0.034	0.254***	0.098
Sales_lg10	-0.018	0.031	-0.054
Adjusted R^2	0.012	0.038**	0.032**
Observations	182	182	182

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

LOW TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Marketing Equity, Avg.	0.150*	0.153**	0.193**
Sales_lg10	0.070	0.046	-0.092
Adjusted R^2	0.025**	0.021*	0.022**
Observations	192	192	192

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

LOW TECHNOLOGY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Marketing Equity, Trend	0.147**	0.064	0.024
Sales_lg10	0.094	0.090	-0.025
Adjusted R^2	0.026**	0.004	-0.010
Observations	192	192	192

**** - p-value ≤ 0.001 (two-sided); *** - p-value ≤ 0.01 (two-sided);
** - p-value ≤ 0.05 (two-sided); * - p-value ≤ 0.10 level (two-sided)

Table 23: Summary of Findings for Hypothesized Relationships

Hypothesized Relationships	Results
H1a: B2B marketing expenditures (+) → Customer Satisfaction	Rejected
H1b: B2C marketing expenditures (+) → Customer Satisfaction	**Supported**
H1c: Secured intellectual property (+) → Customer Satisfaction	Rejected
H1d: Sourcing attentiveness (+) → Customer Satisfaction	*Partially supported*
H1e: Inventory readiness (+) → Customer Satisfaction	Rejected
H1f: Production capacity (+) → Customer Satisfaction	Rejected
H1g: Discovery expenditures (+) → Customer Satisfaction	Rejected
H1h: Ideation personnel centralization (+) → Customer Satisfaction	Rejected
H1i: Overall innovation creativity (+) → Customer Satisfaction	Rejected
H2a: B2B marketing expenditures (+) → Brand Equity	Rejected
H2b: B2C marketing expenditures (+) → Brand Equity	**Supported**
H2c: Secured intellectual property (+) → Brand Equity	Rejected
H2d: Sourcing attentiveness (+) → Brand Equity	Rejected
H2e: Inventory readiness (+) → Brand Equity	Rejected
H2f: Production capacity (+) → Brand Equity	Rejected
H2g: Discovery expenditures (+) → Brand Equity	Partially contradicted
H2h: Ideation personnel centralization (+) → Brand Equity	Rejected
H2i: Overall innovation creativity (+) → Brand Equity	**Supported**
H3a: B2B marketing expenditures (+) → Corporate Reputation	Rejected
H3b: B2C marketing expenditures (+) → Corporate Reputation	Rejected
H3c: Secured intellectual property (+) → Corporate Reputation	Rejected
H3d: Sourcing attentiveness (+) → Corporate Reputation	**Supported**
H3e: Inventory readiness (+) → Corporate Reputation	Rejected
H3f: Production capacity (+) → Corporate Reputation	Partially contradicted
H3g: Discovery expenditures (+) → Corporate Reputation	Rejected
H3h: Ideation personnel centralization (+) → Corporate Reputation	Rejected
H3i: Overall innovation creativity (+) → Corporate Reputation	**Contradicted**
H4: Customer Satisfaction (+) → ROA	**Supported**
H5: Brand Equity (+) → ROA	**Supported**
H6: Corporate Reputation (+) → ROA	Rejected
H7: Customer Satisfaction (+) → Altman's Z	**Supported**
H8: Brand Equity (+) → Altman's Z	Rejected
H9: Corporate Reputation (+) → Altman's Z	**Supported**
H10: Customer Satisfaction (+) → Tobin's Q	**Supported**
H11: Brand Equity (+) → Tobin's Q	Rejected
H12: Corporate Reputation (+) → Tobin's Q	Rejected

Marketing Equity and ROA

Customer satisfaction was found to have a positive influence on ROA in the overall sample (ß=0.170, p-value $\leq$ 0.001), thus supporting H_4. This relationship was also detected in the high technology (ß=0.264, p-value $\leq$ 0.001) and stable and low technology (ß=0.109, p-value $\leq$ 0.10) sub-samples.

Brand equity was found to positively influence ROA in the overall sample (ß=0.130, p-value $\leq$ 0.05) to support H_5. This relationship was also found in the stable and low technology sub-segment (ß=0.135, p-value $\leq$ 0.05). More exactly, stable technology firms appear to increase their ROA with enhanced brand equity (ß=0.198, p-value $\leq$ 0.05).

Corporate reputation was not found to influence ROA in the overall sample, thus rejecting H_6. However, the ROA of stable technology firms appears to benefit from increased corporate reputation (ß=0.224, p-value $\leq$ 0.05).

Interestingly, the averaged Marketing Equity index was found to negatively influence ROA (ß=-0.081, p-value $\leq$ 0.10) in the overall sample. This relationship was more profound in the high technology industry sub-sample (Marketing Equity average: ß=-0.172, p-value $\leq$ 0.05; Marketing Equity trend: ß=-0.128, p-value $\leq$ 0.10). Then, a positive relationship was found in the stable and low technology sub-sample (Marketing Equity average: ß=0.193, p-value $\leq$ 0.001; Marketing Equity trend: ß=0.147, p-value $\leq$ 0.01). For further confirmation, a positive relationship was found among stable technology (Marketing Equity average: ß=0.135, p-value $\leq$ 0.10; Marketing Equity trend: ß=0.115, p-value $\leq$ 0.10) and low technology (Marketing Equity average: ß=0.150, p-value $\leq$ 0.10; Marketing Equity trend: ß=0.147, p-value $\leq$ 0.05) firms.

Marketing Equity and Altman's Z

The expected relationship between customer satisfaction and Altman's Z was found. A positive relationship was detected (ß=0.098, p-value $\leq$ 0.05), thus providing evidence for H_7. This relationship was also found in the stable and low technology sub-sample (ß=0.113, p-value $\leq$ 0.05).

Little evidence was provided to support H_8. However, a positive relationship between brand equity and Altman's Z was found only among stable technology firms (ß=0.178, p-value $\leq$ 0.05).

Corporate reputation was found to have a positive influence on Altman's Z in the overall sample (ß=0.109, p-value $\leq$ 0.05), thus supporting H_9. This relationship was detected in high technology (ß=0.200, p-value $\leq$ 0.05) and low technology (ß=0.254, p-value $\leq$ 0.01) industries, as well.

A positive relationship was found between the averaged Marketing Equity and Altman's Z (ß=0.160, p-value $\leq$ 0.001) in the overall sample. Similar results were found in the high technology (ß=0.164, p-value $\leq$ 0.05) and stable and low technology industry (ß=0.169, p-value $\leq$ 0.001) sub-samples. Additionally, this positive relationship was found among low technology firms (ß=0.153, p-value $\leq$ 0.05). Interestingly, a relationship between the trended Marketing Equity index and Altman's Z was found among stable technology firms (ß=0.021, p-value $\leq$ 0.05).

Marketing Equity and Tobin's Q

A relationship between customer satisfaction and Tobin's Q was found in the overall sample (ß=0.178, p-value ≤ 0.001), thus supporting H_{10}. Similar findings were detected in the high technology (ß=0.178, p-value ≤ 0.05) and stable and low technology (ß=0.209, p-value ≤ 0.001) sub-samples. More exactly, this influence was found among low technology firms (ß=0.161, p-value ≤ 0.05).

Very little evidence was found to support H_{11} in the overall sample. However, a positive relationship between brand equity and Tobin's Q was detected among stable technology firms (ß=0.160, p-value ≤ 0.10). Additionally, a negative relationship was detected in the low technology industry sub-sample (ß=-0.133, p-value ≤ 0.10).

Corporate reputation was not found to influence Tobin's Q in the overall sample, thus rejecting H_{12}. In fact, a relationship between these two variables was found only in the high technology industry sub-sample (ß=-0.160, p-value ≤ 0.05).

A positive relationship was found between both measures of Marketing Equity and Tobin's Q (Marketing Equity average: ß=0.144, p-value ≤ 0.001; Marketing Equity trend: ß=0.093, p-value ≤ 0.05) in the overall sample. In the high technology industry sub-sample, only the trended Marketing Equity index was found to have a statistical relationship with Tobin's Q (ß=0.111, p-value ≤ 0.10). However, both Marketing Equity indices were found to relate with Tobin's Q among stable and low technology (Marketing Equity average: ß=0.223, p-value ≤ 0.001; Marketing Equity trend: ß=0.111, p-value ≤ 0.05) and stable technology (Marketing Equity average: ß=0.115, p-value ≤ 0.10; Marketing Equity trend: ß=0.155, p-value ≤ 0.05) firms. Additionally, in the low

technology industry sub-sample, a statistical relationship was detected using the averaged Marketing Equity index (ß=0.193, p-value ≤ 0.05).

Table 24: Summary of Relationship Between Cross-Functional Marketing Resources and Marketing Equity Components

RESULTS SUMMARY	Customer Satisfaction	Brand Equity	Corporate Reputation
B2B Marketing Expenditures		*Low +*	
B2C Marketing Expenditures	Overall +; High +	Overall +; *Stable & Low* +; Stable +	High –
Secured Intellectual Property	*High +*		*Low +*
Sourcing Attentiveness	*Overall* +; Stable & Low +		Overall +; High +; Stable & Low +
Inventory Readiness	*Low +*	Stable –	
Production Capacity			*Overall* –; Stable & Low –; *Low –*
Discovery Expenditures		*Overall* –; High –; Low –	High –
Ideation Personnel Centralization			
Overall Innovation Creativity		Overall +; Stable & Low +; Stable +	Overall –; *High –*
Sales_lg10	Stable & Low +; Stable +; Low +	Overall +; High +; Stable & Low +; *Stable* +; Low +	Overall +; Stable & Low +; Stable +

listed if beta coefficient has p-value ≤ 0.05 (two-sided) for Overall, High Technology, Stable & Low Technology, Stable Technology, and Low Technology samples
if p-value ≤ 0.10 level (two-sided), then *italics*
if N < 50, then underlined

RESULTS SUMMARY	Customer Satisfaction	Brand Equity	Corporate Reputation
Customer-focused resources and capabilities	Overall +; Stable & Low +; Low +	Stable +	*Stable & Low* +; *Stable* +
Supply chain-focused resources and capabilities	*Stable –*	*Stable* –; Low+	
Innovation-focused resources and capabilities			
Sales_lg10	Stable & Low +; Low +	Overall +; High +; Stable & Low +; Stable +; Low +	Overall +; High +; Stable & Low +; Stable +; Low +

listed if beta coefficient has p-value ≤ 0.05 (two-sided) for Overall, High Technology, Stable & Low Technology, Stable Technology, and Low Technology samples
if p-value ≤ 0.10 level (two-sided), then *italics*
if N < 50, then underlined

Table 25: Summary of Relationship Between Cross-Functional Marketing Resources and Marketing Equity Index

RESULTS SUMMARY	Marketing Equity, Avg.	Marketing Equity, Trend
B2B Marketing Expenditures		
B2C Marketing Expenditures	Overall +; Stable & Low +; Stable +; Low +	Overall +; Stable & Low +; Stable +; Low +
Secured Intellectual Property		
Sourcing Attentiveness	*Overall* +; Stable & Low +; Low +	Stable & Low +; Low +
Inventory Readiness		*Overall* –; Stable –
Production Capacity		*Low* –
Discovery Expenditures	*Overall* –; High –	*Overall* –; *High* –; *Stable & Low* –
Ideation Personnel Centralization		
Overall Innovation Creativity	*Stable +*	*Stable +*
Sales_lg10	Overall +; *High* +; Stable & Low +; Stable +; Low +	Overall +; *High* +; Stable & Low +; *Stable +*; Low +

listed if beta coefficient has p-value ≤ 0.05 (two-sided) for Overall, High Technology, Stable & Low Technology, Stable Technology, and Low Technology samples
if p-value ≤ 0.10 level (two-sided), then *italics*
if N < 50, then underlined

RESULTS SUMMARY	Marketing Equity, Avg.	Marketing Equity, Trend
Customer-focused resources and capabilities	Overall +; Stable & Low +; Stable +; Low +	Overall +; High +; Stable & Low +; Stable +
Supply chain-focused resources and capabilities	*Low* +	*Stable & Low* +; *Stable* +
Innovation-focused resources and capabilities	*Overall* –	*Overall* –; *High* –
Sales_lg10	Overall +; High +; Stable & Low +; Stable +; Low +	Overall +; Stable & Low +; Stable +; Low +

listed if beta coefficient has p-value ≤ 0.05 (two-sided) for Overall, High Technology, Stable & Low Technology, Stable Technology, and Low Technology samples
if p-value ≤ 0.10 level (two-sided), then *italics*
if N < 50, then underlined

Table 26: Summary of Relationship Between Cross-Functional Marketing Resources and Financial Performance

RESULTS SUMMARY	Return on Assets (ROA)	Altman's Z	Tobin's Q
B2B Marketing Expenditures		Overall +; Stable & Low +; Stable +	Overall +
B2C Marketing Expenditures	*Overall +; Stable +*	*Stable +*	
Secured Intellectual Property			Overall +; High +; Stable & Low +; Stable +; Low +
Sourcing Attentiveness	Overall +; High +; Stable & Low +; Low +		
Inventory Readiness	*Stable & Low +*		Overall +; High +; Stable & Low +
Production Capacity		Overall –; High –; Stable & Low –; *Low –*	
Discovery Expenditures		Overall –; *Stable & Low –*	*Low +*
Ideation Personnel Centralization			*High +*; Low –
Overall Innovation Creativity	*Stable & Low –*; *Stable –*	*Stable & Low –*; *Stable –*	Overall –; High –; *Stable –*
Sales_lg10	Overall +; Low +	*Stable –*	High –

listed if beta coefficient has p-value ≤ 0.05 (two-sided) for Overall, High Technology, Stable & Low Technology, Stable Technology, and Low Technology samples
if p-value ≤ 0.10 level (two-sided), then *italics*
if N < 50, then underlined

RESULTS SUMMARY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Customer-focused resources and capabilities	Overall +; *High +*; Stable +	Overall +; Stable & Low +; Stable +	Overall +; High +; Stable & Low +; Stable +; Low +
Supply chain-focused resources and capabilities	*Stable & Low –*	Overall –; Stable & Low –; Stable –; Low –	Overall –; Stable & Low –
Innovation-focused resources and capabilities			*Overall –*
Sales_lg10	*Low +*	Stable –	Overall –; High –; Stable –

listed if beta coefficient has p-value ≤ 0.05 (two-sided) for Overall, High Technology, Stable & Low Technology, Stable Technology, and Low Technology samples
if p-value ≤ 0.10 level (two-sided), then *italics*
if N < 50, then underlined

Table 27: Summary of Relationship Between Marketing Equity and Financial Performance

RESULTS SUMMARY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Customer Satisfaction	Overall +; High +; *Stable & Low +*	Overall +; Stable & Low +	Overall +; High +; Stable & Low +; Low +
Brand Equity	Overall +; Stable & Low +; Stable +	Stable +	*Stable +; Low –*
Corporate Reputation	Stable +	Overall +; High +; Low +	High +
Sales_lg10		Stable & Low –; *Stable –*	Overall –; High –; Stable & Low –; *Stable –*

listed if beta coefficient has p-value ≤ 0.05 (two-sided) for Overall, High Technology, Stable & Low Technology, Stable Technology, and Low Technology samples
if p-value ≤ 0.10 level (two-sided), then *italics*
if N < 50, then underlined

RESULTS SUMMARY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Marketing Equity, Avg.	*Overall* –; High –; Stable & Low +; *Stable +; Low +*	Overall +; High +; Stable & Low +; Low +	Overall +; Stable & Low +; *Stable* +; Low +
Sales_lg10		Stable & Low –; Stable –	Overall –; High –; Stable & Low –; Stable –

listed if beta coefficient has p-value ≤ 0.05 (two-sided) for Overall, High Technology, Stable & Low Technology, Stable Technology, and Low Technology samples
if p-value ≤ 0.10 level (two-sided), then *italics*
if N < 50, then underlined

RESULTS SUMMARY	Return on Assets (ROA)	Altman's Z	Tobin's Q
Marketing Equity, Trend	*High* –; Stable & Low +; *Stable* +; Low +	Stable +	Overall +; *High* +; Stable & Low +; Stable +
Sales_lg10			Overall –; Stable & Low –; Stable –

listed if beta coefficient has p-value ≤ 0.05 (two-sided) for Overall, High Technology, Stable & Low Technology, Stable Technology, and Low Technology samples
if p-value ≤ 0.10 level (two-sided), then *italics*
if N < 50, then underlined

CHAPTER SIX

DISCUSSION

"Reality is merely an illusion, albeit a very persistent one."

– Albert Einstein (1879-1955)

This study expands the notion of customer equity and customer lifetime value (CLV) by testing the marketing function's ownership in the marketplace as measured by competing marketing outcomes and a wholistic measurement, Marketing Equity. In addition, this study not only analyzes the role of resource allocations on marketing's ownership in the marketplace, but it also assesses the impact of these different elements of Marketing Equity on financial performance.

In this section, a detailed discussion is provided concerning the results from this study. Considering the context of this study, three overarching conclusions can be established: 1) customer-focused resources are necessary for continued competitiveness; 2) finding the optimum balance for effective utilization of supply chain-focused resources can be challenging; and 3) innovation focused resources can be a hedge against future developments that may occur in the marketplace.

The subsequent sections discuss in more detail the finer points of each of these main conclusions that can be derived from this study. First, analysis is performed concerning the influence of each cross-functional marketing resource on the distinct components of Marketing Equity in different industry-based technology conditions. Then, discussion is included concerning the direct influence of cross-functional marketing resources on each measure of financial performance. Finally, the impact of each element of Marketing Equity on the distinct measures of financial performance is

considered. Additionally, some limitations to the present study are discussed as possible areas for future research in the literature.

RELEVANT FINDINGS

Cross-Functional Marketing Resources and Marketing Equity

Customer-focused resources and marketing equity. The first overarching conclusion that can be made from this study is that customer-focused resources are necessary for continued competitiveness. An effective way to discuss the standing of customer-focused resources as contributing to the position advantage of the firm is in relationship discovered between concerning B2C marketing expenditures and different components of Marketing Equity. The negative relationship found between B2C marketing expenditures and corporate reputation in the high technology industry sub-sample indicates that excessive marketing expenditures focusing on the end-customer may adversely influence how the company is seen in a B2B context. However, B2C marketing expenditures were found to positively influence customer satisfaction in the overall sample as well as in high technology industries. Additionally, the positive influence of B2C marketing expenditures on brand equity in the overall sample, the stable and low technology sub-sample, and the low technology industry mini-group is indicative of the lasting influences of such directed resources.

This seems to indicate that B2C marketing expenditures have a multiple role in the relationship that a firm may develop with its end-customers. In fact, the positive influence of B2C marketing expenditures on customer satisfaction appears to show that these types of customer-focused resources assist the process of exposure, awareness, and

purchase intent in the marketplace. The result is that a firm's immediate position in the market should be enhanced somewhat closely to the deployment of such resources relative to other alternatives in the firm. As findings supported this notion in the analysis of distinct sub-samples previously discussed, one could also posit that the role of B2C marketing expenditures is particularly important to this process in high technology industries.

Additionally, the influence of B2C marketing expenditures on brand equity appears to indicate the second facet of the role of this variable. In essence, this study's findings show that the relationship between B2C marketing expenditures and brand equity is indicative of the firm's ability to develop a relationship with end-customers. The implicit nature of the brand equity construct lends itself to the conclusion that it is a measure of a longer-term relationship that may develop between consumers and a firm-level brand. Therefore, it seems that the positive influence of B2C marketing expenditures shows that it is an important element in a firm's strategy to accomplish and maintain such a relationship. In fact, this also holds in the stable and low technology industry sub-segment and – more particularly – in the stable technology mini-segment, further indicating the distinction of brand equity from customer satisfaction.

As such, the negative associations of B2C marketing expenditures with corporate reputation may be a result of the sample employed. Since corporate reputation was drawn from executives, directors, and securities analysts, the sample may generally perceive that B2C marketing expenditures negatively impact the firm. Also, the eight measures used to assess corporate reputation – a firm's innovativeness, financial soundness, employee talent, corporate asset utilization, long-term investment value, social responsibility,

management quality, and product or service quality – lend themselves to the notion that resources in any firm are finite. As such, if resources are spent to communicate with the end-customer among a sample that is more focused on business marketing issues, then one conclusion may be that the resources used may be better spent elsewhere.

Interestingly, B2C marketing expenditures were negatively correlated with two different variables in this study's sample: inventory readiness and sales. The negative correlation between B2C marketing expenditures and inventory readiness seems to indicate that customer-focused resources (e.g., B2C marketing expenditures) may create a pull in the marketplace for which a firm's supply chain-focused resources (e.g., inventory readiness) may not be entirely prepared. This could very well be due to a greater effectiveness of B2C customer expenditures than expected. Also, this may be the result of managers' unwillingness to take the risk of strategically having excessive inventory for response to the marketplace. Additionally, there might be issues related to a conceptual disconnect in decision-making between the efficiency of a firm's production processes or sourcing tactics and its customer-focused strategies.

However, an equally compelling reason for the negative relationship between B2C marketing expenditures and inventory readiness may reside in the negative correlation this study's sales variable holds with B2C marketing expenditures. More explicitly, a lack of sales can induce a firm to facilitate demand by deploying B2C marketing expenditures, but may also encourage an inability to respond to demand because of the market conditions to which a firm's supply chain is accustomed.

Additionally, B2B marketing expenditures had a positive influence on brand equity in the low technology industry mini-sample. This appears to indicate that the use

of B2B marketing expenditures also contributes to the relationship a firm attempts to develop with its end-customers. The nature of low technology industries is typically not a hyper-competitive as in high technology industries. Thus, the use of resources to facilitate the delivery of products or services to the marketplace via internal functional groups (e.g., sales force) or external intermediaries (e.g., independent distributors) seems to assist in developing a firm's relationship with consumers.

Also, there appear to be two relevant statistical relationships concerning secured intellectual property. First, it appears that secured intellectual property has a positive influence on customer satisfaction in the high technology sub-sample. This seems to indicate that the stock of a firm's secured intellectual property acts as a way for high-technology firms to immediately and effectively respond to market conditions. As a result, this is shown in a firm's positional advantage of enhanced customer satisfaction vis-à-vis competitors. Second, the positive influence of secured intellectual property on corporate reputation in the low technology mini-sample may be an indication of the immediacy market sector analysts and industry experts place on this customer-focused variable. More exactly, it appears that the decreased competitive intensity inherent in low technology industries lends itself to the applicability of secured intellectual property in the sample used to arrive at the corporate reputation variable.

Supply chain-focused resources and marketing equity. The second overarching conclusion of this study that an optimum balance of supply chain-focused resources is daunting yet imperative for competitiveness is best explained in results concerning a firm's production capacity. Findings concerning the negative influence of production capacity on corporate reputation in the overall sample, the stable and low technology

industry, and the low technology mini-segment indicate that a firm's responsiveness to the production requirements in marketplace is of utmost importance. In essence, the more able a firm is to align, upgrade, and maintain its production facilities, the more likely its corporate reputation will benefit.

By analyzing the variables which have two strong correlations with production capacity, an even more interesting picture emerges concerning the importance of this variable in relation to other resources included in this study. First, the strong negative correlation between production capacity and B2B marketing expenditures seems to relate back to the issue of responsiveness. In fact, the role of B2B marketing expenditures appears to act as a compensating effect for a firm's production capacity (or, lack thereof). More precisely, a firm's sales force or independent distributors may have a better idea of how best to utilize the production abilities of the firm, thus acting as a buffer that can best optimize for market conditions.

Secondly, the notable positive correlation between production capacity and inventory readiness seems to indicate that these two concepts are related in terms of the production process. More exactly, this seems in line with the notion of responsiveness as being key to the influence of supply chain-focused resources on the components of marketing equity. This positive correlation appears to indicate that a firm has less of its inventory as finished goods to remain competitive. In relation to production capacity, this seems to mean that, by keeping more of its inventory as raw materials or work-in-progress (WIP), the firm is better able to avoid the danger of trying to release obsolete inventory into the marketplace.

The influence of inventory readiness on customer satisfaction in the low technology mini-sample is related to this in that the nature of low technology industries typically does not have nearly the threat of inventory obsolescence as higher technology industries. As such, the ability of the firm to stockpile inventory to respond to marketplace conditions makes this a strategy that may only exclusively be useful in lower technology industries. An indication of this is the negative relationship between inventory readiness and brand equity in the stable technology mini-sample. It would seem that in this type of industry that possessing too much inventory that might very well be obsolete may provide a signal to end-customers that a tenuous relationship with the firm may exist in the future.

Another signal of the complexity of relating supply chain-focused resources to marketing equity is the dual positive influence of sourcing attentiveness on customer satisfaction and corporate reputation in the overall sample. In addition to the findings concerning the responsiveness of firms to the marketplace mentioned above, the results concerning sourcing attentiveness indicates the importance of keeping costs under control so that the firm can pass such value on in some way to the end-customer. For example, by reducing costs of production, a firm is better able to expend its resources and capabilities elsewhere to better calibrate its product or service offerings to satisfy customers more effectively. Even though the measure for corporate reputation is not derived from end-customers like customer satisfaction, this logic holds true for the relationships between sourcing attentiveness and corporate reputation in the overall sample as it does for customer satisfaction. Equally interesting is that similar findings are indicated in the

stable and low technology sub-sample, thus indicating the particular importance of this relationship in these types of industries.

However, most compelling is that the positive influence of sourcing attentiveness on corporate reputation was also found in high technology industries. Though possibly a relic of the sample for deriving corporate reputation, it nonetheless re-iterates the importance of cost control and its relation to delivering value to the customer.

Innovation-focused resources and marketing equity. The third overarching conclusion of this study is that innovation-focused resources can act as a hedge against future developments that may occur in the marketplace. In fact, this is perhaps most adequately shown in this study's findings concerning discovery expenditures and overall innovation creativity. The negative influence of discovery expenditures on brand equity in the overall sample as well as among the high and low technology sub-segments provides an interesting dilemma for marketing research. A complex picture emerges with findings indicating that overall innovation creativity positively influences brand equity in the overall sample, the stable and low technology sub-segment, and the low technology mini-segment. In fact, the findings imply that research and development efforts must be more focused and efficient for high and low technology firms. Equally important, though, is the element of differentiation through a firm's overall innovation creativity particularly in the stable and low technology industries.

However, overall innovation creativity can damage a firm's corporate reputation, as well. According to this study's findings, a negative relationship exists between overall innovation creativity and corporate reputation in the overall sample and among high technology firms. Essentially, this may occur for two reasons: 1) resources used for

creative products and/or processes may not be the optimum use of company resources; and 2) to align with demands in the marketplace, incremental innovation will be more widely accepted and contribute more to a firm's Marketing Equity. This is supported further by the negative relationship between overall innovation creativity and ROA, Altman's Z, and Tobin's Q.

The notable negative correlation between overall innovation creativity and discovery expenditures must also be discussed to conclude the emphasis of innovation-focused resources as relevant to this study. With reference to the negative influence of discovery expenditures on brand equity and corporate reputation in a variety of contexts, it would appear that overall innovation creativity – in these specific conditions – may very well provide benefit. However, should discovery expenditures be left uncontrolled, then it would appear that overall innovation creativity would lose its effectiveness. In essence, the directed nature of a firm's innovation efforts and its overall innovation creativity appears as an emerging issue from the data in this study.

Cross-Functional Marketing Resources and Financial Performance

The positive influence of B2B marketing expenditures on Altman's Z in the overall sample, the stable and low technology sub-segment, and the stable mini-segment indicates that this customer-focused resource reduces the likelihood that the firm will go bankrupt. Also, B2C marketing expenditures appear important as well in ensuring a firm's financial status among stable technology firms. In addition, given the positive relationship between B2B marketing expenditures and Tobin's Q in the overall sample,

this study implies that such actions should positively impact the future value of the company.

This study finds that sourcing attentiveness positively influences ROA in the overall sample, the high technology sub-sample, the stable and low technology sub-sample, and the low technology mini-sample. As such, this study states that cost-cutting measures taken in an earlier period (1994-1999) have a positive financial impact later in the firm's development (2003-2005).

Inventory readiness also appears to have a positive influence on financial performance. Given the influence of inventory readiness on ROA in the stable and low technology sub-sample, this study proposes that having inventory ready to respond to market conditions can impact financial performance later. Similar findings exist in the positive relationship between inventory readiness and Tobin's Q in the overall sample, the high technology sub-sample, and the stable & low technology sub-sample.

Like in findings discussed above, the role of responsive production capacity is important. This can be seen in the negative influence of production capacity on Altman's Z in the overall sample, the high technology sub-segment, the stable and low technology sub-sample, and the low technology mini-sample. In essence, having too much production capacity and spending too little on capital expenditures indicates a lack of upgrade of current facilities. As such, without sufficient upgrades, a firm can risk bankruptcy.

Interestingly, the negative relationship between discovery expenditures and Altman's Z in the overall sample and the stable and low technology sub-sample appears to indicate a different issue: the efficiency and effectiveness of a firm's innovation

efforts. Spending too much on research and development can risk a firm's financial stability. However, in the low technology sub-sample, a positive relationship between discovery expenditures and Tobin's Q was found. This appears to indicate that research and development efforts can impact the marketplace's assessment of future performance of the firm.

Ideation personnel centralization appears to have a positive impact on Tobin's Q among high technology firms but a negative impact among low technology firms. This may imply that – given the dynamics high technology firms face – centralization of inventors is imperative to properly respond to the marketplace. Meanwhile, among low technology firms, decentralization may be more important for two reasons: 1) innovation may not be as important as in other industry types; and 2) innovation efforts must be embodied in every aspect of the firm. As such, the more decentralized the firm's innovative activities, the better able it would be to response to the specific nuances of low technology industries.

Marketing Equity and Financial Performance

Customer satisfaction appears to have a positive influence on ROA and Tobin's Q in the overall sample as well as the high technology and stable and low technology sub-samples. Additionally, the influence of ROA on Tobin's Q appears to exist in the low technology mini-sample. As such, there is little surprise that these relationships have been studied extensively by extant literature. However, equally interesting is that customer satisfaction can increase a firm's likelihood of avoiding bankruptcy.

Though less studied to date, brand equity's influence on ROA appears to hold well in the overall sample, the stable and low technology sub-sample, and the stable technology mini-sample. In addition, brand equity appears to impact a firm's financial stability among stable technology firms. The lack of findings addressing high technology firms may be due to the dynamics of these specific types of industries. Since competitiveness is typically more competitive, the time it takes to develop a firm's brand equity may not be an effective utilization of firm resources. This appears to be supported in the positive relationship between brand equity and Tobin's Q in the high technology sub-sample. If a firm has brand equity, it can positively impact the marketplace's assessment of a firm's assets. However, this is the extent to which one can discuss this within the context of high technology industries.

Corporate reputation also appears to be a reasonable insurance against bankruptcy. A positive relationship was found between corporate reputation and Altman's Z in the overall sample, the high technology sub-sample, and the low technology mini-sample. Also, like brand equity, corporate reputation was found to impact a firm's valuation in the marketplace of future success as measured by Tobin's Q. Given these and other findings, this study concludes that evidence exists for the various elements of marketing equity are adequate mediators in this study.

LIMITATIONS

There are at least three topics that related to limitations of this study: 1) sample size; 2) marketing equity; and 3) sample parameters. First, the sample size is not ideal for testing all the relationships included. In fact, the analysis of the stable technology and low

technology mini-samples is indicative of this problem. To partially account for this issue, an enhanced least squares approach was used. However, gathering more actual data to avoid the use of such a method is needed for future research.

At that point, a more rigorous method might be used: 1) structural equation modeling to analyze the relationships as a system; 2) generalized least squares, two-stages least squares, or three-stages least squares to account for correlated error terms, non-normality, and possible recursive relationships; 3) partial least squares to account for non-normality in the data and a small sample size.

Second, the definition of Marketing Equity is not complete. While it incorporates customer satisfaction, brand equity, and corporate reputation to represent the marketing function's ownership in the marketplace, this conceptual construct is missing other elements that either are not current in the literature or have yet to be adequately explored in the literature.

One example of this is the measure of corporate reputation. The use of this measure is sufficient to capture the standing of a firm in a specific industry within a B2B context. However, corporate reputation as defined here accounts only for the decision-makers (be they executives, directors, or securities analysts) as they operate within the industry and business marketing context. This study fails to account for this sample type as acting as influential end-customers, as well.

Third, while many of the issues involved are either explicitly or implicitly international, this entire study is based on data gathered in the United States. The data drawn from the WRDS Compustat database was the North American Industrial Annual database. Future research may aim to use Compustat's Global and Emerging Markets

database in the future to better account for international issues. Also, some of the innovation-focused resources used in this study were drawn from registered innovations in the United States. As such, future research may wish to incorporate innovation registration data from the European Union, Japan, or the World Intellectual Property Organization. Also, international measures for customer satisfaction, brand equity, and corporate reputation exist. Future studies may wish to secure these data sources for more study and applicability, as well.

Therefore, future studies may aim to incorporate any or all of these limitations in their analyses.

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