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Abstract
This paper provides an empirical investigation of the effects of brand portfolio strategy on shareholder value and risk. Although previous research has shown that Branded House strategies in which all firm offerings are presented using the corporate umbrella brand generate higher values of Tobin’s q than House of Brands strategies in which separate brands are cultivated, the risk profiles of these alternate portfolio approaches have not yet been considered. Additionally, previous research ignores important nuances in brand portfolio strategy that are made salient when considering strategic variations on pure Branded House (BH) and House of Brands (HOB) strategies: namely, sub-branding and endorsed branding. We address these gaps by estimating the Carhart four-factor financial model to assess three components of shareholder value (levels of returns, systematic risk, and idiosyncratic risk) and relate them to five strategies along the brand portfolio continuum: branded house, sub-branding, endorsed branding, house of brands and a hybrid strategy including some combination of these. Using the moving window method-based regression analysis to evaluate the impact of brand portfolio strategy on firm value, we find that sub-branding, a variant on the branded house strategy wherein the corporate umbrella brand retains or shares the purchase driver role but is linked prominently to a different branded offering (e.g., Apple IPod), outperforms all other strategic options in returns, but at high levels of risk. In terms of improving the firm’s risk profile, we find outperformance for strategies that create separation (house of brands) or distance (endorsed branding) from the corporate brand. Hybrid/mixed strategies, the most common approach in our database, present a worst case scenario in financial performance, with the lowest returns but with higher levels of risk. Our results support sophistication within the financial community concerning the risk/return profiles of the different brand portfolio options. Results also caution against the seemingly ad-hoc choices managers make in designing their brand portfolios, and inform conventional managerial wisdom that assumes the “best of all worlds” through portfolio strategies that connect and leverage both separate and corporate brands.

**Keywords:** Marketing Strategy: Firm Performance, Brand Portfolio Strategy, Firm Risk.
Introduction

Academics and practitioners have expressed a growing interest in connecting marketing initiatives to financial performance and firm value (Knowles and Rutherford 2008; Srinivasan and Hanssens 2009). Research to date has explored the impact on shareholder value from market-based assets (Srivastava, Shervani, and Fahey 1998), product innovations (Pauwels et al. 2004; Srinivasan et al. 2009), research and development investments (McAlister, Srinivasan, and Kim 2007), deceptive marketing practices (Tipton, Bharadwaj, and Robertson 2009), and advertising spend (Joshi and Hanssens 2009; Osinga et al., forthcoming). Marketing Science Institute research priorities for 2010-2012 reinforce the importance of bridging the marketing-finance divide.

One of the key interest areas identified by both practitioners and researchers is the impact of brand and branding strategy on stock price, growth, and the riskiness of cash flows (Hanssens, Rust, and Srivastava 2009). Research supports that intangible brand assets increase stock returns through the generation of enhanced future cash flows (Aaker and Jacobson 1994; Mizik and Jacobson 2008) and the provision of numerous supply- and demand-side advantages (Rao, Agarwal, and Dahlhoff 2004). Further, investors consider brand strength information in their stock evaluations (Barth et al. 1998; Simon and Sullivan 1993). Marketing research on the link between brand-related intangible assets and firm value have assessed stock market reaction to brand name changes (Horsky and Swyngedouw 1987), brand extensions (Lane and Jacobson 1995), and characteristics of the architecture used to structure and manage a company's brands. Specifically, brand portfolio strategy has been shown to affect financial performance through both the choice of Branded House versus House of Brands architectures (Rao, Agarwal, and Dahlhoff 2004) as well as the number and scope of brands in the portfolio, their competitive structures, and the perceived quality of portfolio brands (Morgan and Rego 2009). Still, with some exception (Madden, Fehle, and Fournier 2006; Luo and Bhattacharya 2009; Rego, Billett and Morgan 2009), few studies examine brand strategy effects on firm risk, a key metric for publicly-traded companies (Tuli and Bharadwaj 2009). Given that managers and investors are inherently risk-averse (Swedroe and Grogan 2009) and seek to maximize returns while minimizing risk exposure, it is crucial to that our models of brand strategy effects consider risk.

This paper provides an empirical investigation of the influence of brand portfolio strategy on shareholder value and risk. Previous research (Rao, Agarwal, and Dahlhoff 2004) shows that Branded House (BH) strategies in which a unifying corporate brand extends across all branded entities in the company's portfolio (e.g., Microsoft) generate higher values of Tobin's q than both (a) House of Brands (HOB) strategies, wherein individual and distinct brands not linked with the corporation are cultivated for specific market segments (e.g., Unilever) and (b) Hybrid strategies that include a mixture of corporate-identified and separate brands (e.g., Toyota). However, the implicit conclusion of this research in favor of out-performing branded house strategies is difficult to reconcile with managerial theories-in-use governing choices between alternate brand portfolio approaches. Accepted wisdom cautions against branded house strategies that connect all offerings to a unifying corporate brand and thereby expose the firm to increased vulnerabilities and brand equity dilution risks (Aaker 2004a; Aaker and Joachimsthaler 2000b). For example, when the Martha Stewart brand lost half of its measured strength value in the wake of a reputation crisis, revenues in Martha Stewart Living magazine, Martha Stewart Living TV show, and Martha Stewart Everyday housewares fell sharply (Fournier 2004; Laforet and Saunders 1994). The risks of equity dilution are bi-directional: when one product under a corporate umbrella fails or suffers from lower quality evaluations, both the corporate brand and other portfolio brands can weaken from the addition of negative associations as well (Roedder-John, Loken, and Joiner 1998). Toyota Prius' “unintended acceleration” crisis stands as a notable case in point (Maynard 2010). Research on brand leverage supports a similar caution against the branded house strategy, wherein overextension has been shown to dilute the equity of the parent umbrella brand (Keller and Sood 2003; Loken and Roedder-John 1993). Investors are particularly sensitive to the major and unpredictable events that threaten corporate reputations, and react violently to exposures of risk to corporate brand reputations (Govindaraj and Jaggi 2004; Gray and Balmer 1998). Merck’s recall of Vioxx precipitated a 27% plunge in share price, for example, and the Tylenol crisis caused the market value of Johnson & Johnson to fall 29% (Dowdell, Govindaraj, and Jain 1992). Despite these vivid real-world examples, research has not yet considered firm risk when assessing the promise and effectiveness of the alternate portfolio strategies used to structure a firm’s branded offerings. Our research addresses this gap by examining the impact of a company’s brand portfolio strategy on the systematic and idiosyncratic risk of its stock.
Our research endeavors a second contribution through a refined operationalization of brand portfolio strategy options and, hence, a more nuanced empirical consideration of brand portfolio effects. Most research on the relative costs and benefits of alternate portfolio strategies considers a simple Branded House versus House of Brands dichotomy that examines the effects of corporate-brand connection at the extremes (Aaker 2004b; Aaker and Joachimsthalther 2000b). A hybrid corporate branding/house of brands strategy is sometimes added in the mix (Laforet and Saunders 1994; Rao et al. 2004). Still, there exists considerable variation even within a given type of structure (Rajagopal and Sanchez 1994). More appropriately, brand portfolio strategy offers a continuum of options that vary in managerial leverage of the corporate brand connection and consumers’ reliance on the corporate brand in the consumption decisions that they make. The brand relationship spectrum developed by Aaker (2004a) and clarified by Franzen (2009) posits five strategies that vary along these dimensions: branded house, sub-branding, endorsed branding, house of brands, and a hybrid mix of the above. This expanded scheme is important as it clarifies important distinctions obscured in the simplified dichotomy which should relate to returns and risks. As an example, consider that Rao et al.’s (2004) corporate branding/branded house strategy includes the pure branded house strategy as well as both sub-branding and endorsed branding, which also leverage corporate brand connections: “With the corporate branding strategy, the corporate name is dominant in endorsing all or part of the firm’s product and service brands. At the least, the corporate name is an element of the product brand names.” (p.127). The pure versus superordinate versus subordinate use of a corporate brand connection that characterizes the branded house, sub-branding and endorsed branding strategies, respectively (Devlin 2003), should have differential effects on returns and risk. We review the branding literature to clarify expected risk/return profiles and develop a reliable procedure for classifying portfolio strategies into the expanded five-category schema to investigate these different valuation effects.

To address identified gaps in the literature, we estimate the Carhart four-factor financial model to assess three components of shareholder value (levels of returns, systematic risk, idiosyncratic risk) and evaluate the impact of five alternative portfolio strategies (branded house, sub-branding, endorsed branding, house of brands and a hybrid strategy including some combination of these) on firm value and risk. Using data from COMPSTAT and CRSP, and applying the moving window method-based regression analysis, we find that alternate brand portfolio strategies are associated with different risk/return profiles and that these profiles are often counter to what received managerial wisdom and reasoned decision making would suggest. The rest of the article is organized as follows. First, we review relevant literature on shareholder value and brand portfolio strategy to develop our conceptual model and hypotheses. We then discuss our measurement and analytic approach. We close with a presentation of our findings and a discussion of theoretical and practical implications in the brand strategy realm.

**Conceptual Framework**

Figure 1 provides our conceptual framework for investigating the effects of brand portfolio strategy on shareholder value and risk. These factors are discussed in the sections below, along with hypotheses for expected effects.
Figure 1: Conceptual Framework

Shareholder Value and Risk

Market-based assets have demonstrably created and influenced shareholder value beyond market performance measures such as sales growth and market share (Srivastava, Shervani, and Fahey 1998). Shareholder value is determined by two fundamental metrics in finance: levels of stock returns and the volatility or risk associated with those returns (Srinivasan and Hanssens 2009). Stock returns are the percentage change in a firm’s stock price (Hamilton 1994). Greater risk, as reflected in higher stock-price volatility, may suggest vulnerable and uncertain future cash flows, which induce higher costs of capital financing, thus damaging firm valuation in the long run. Total risk has two components: systematic risk and idiosyncratic or firm-specific risk. Systematic risk stems from economy-wide sources that affect the overall stock market (e.g., interest rate shifts, exchange rates, macroeconomic developments); these are risks that cannot be diversified away through a balanced portfolio. Idiosyncratic risk is the risk associated with firm-specific circumstances or characteristics (e.g., research and development pipeline, brand portfolio strategy), after market variation is accounted for. Goyal and Santa-Clara (2003) found that idiosyncratic risk constitutes about 80% of the average stock variance measure and has significant relevance in firm-value determination (Brown and Kapadia 2007). There is robust evidence supporting the importance of examining systematic risk as well as idiosyncratic risk for managers and investors (Ferreira and Laux 2007; Luo and Bhattacharya 2009).

Our starting point for obtaining return and risk components is the well-established benchmark model in the finance literature, i.e. the four-factor explanatory model (Fama and French 1993; Carhart 1997) which estimates the expected returns as a function of risk factors that reflect the general stock market, the size, the relative importance of intangibles (book-to-market ratio) and momentum. The typical financial benchmark model for stock returns is estimated as follows:

\[ R_{it} - R_{it} = \alpha_i + \beta_i (R_{mt} - R_{it}) + s_i SMB_t + h_i HML_t + u_i UMD_t + \epsilon_{it} \]  

where \( R_{it} \) is the stock return for firm \( i \) at time \( t \), \( R_{it} \) is the risk-free rate of return in period \( t \), \( R_{mt} \) is the average market rate of return in period \( t \), \( SMB_t \) is the return on a value-weighted portfolio of small stocks minus the return of big stocks, \( HML_t \) is the return on a value-weighted portfolio of high book-to-market stocks minus the
return on a value-weighted portfolio of low book-to-market stocks, and $\text{UMD}_t$ is the average return on two high prior-return portfolios minus the average return on two low prior-return portfolios. These are referred to as the market factor, size factor, value factor and momentum factor, respectively. Details on the four factors and related data are available on Kenneth French’s web site.\textsuperscript{1} The parameter $i$ captures abnormal excess returns that should not be present and should be equal to 0 in the case of an efficient market. Marketing strategies and performance affect cash flows which, in turn, influence investors’ outlook (Srinivasan and Hanssens 2009). For example, a firm’s choice of brand portfolio strategy to manage current offerings and extend product lines or brands may affect future cash flows and hence investor valuation, resulting in higher abnormal stock returns. The parameter $\beta_i$ measures the firm’s systematic risk and the parameter $s_i$ indicates the extent to which the firm’s stock returns move with those from a portfolio of small stocks (higher value for $s_i$) or those from large stocks (lower value for $s_i$); similarly, $h_i$ takes on a higher value when the stock returns show more correspondence with those from high book-to-market equity firms and lower values when they are closer to the returns from low book-to-market equity firms. The parameter $u_i$ indicates the extent to which the stock returns relate to those from firms that performed well in the previous period; therefore, when a firm’s stock has momentum, we expect a positive significant estimate for $u_i$. Short-term excess returns appear in the form of $\epsilon_{it}$. Finally, $\sigma^2_{\epsilon_{it}}$, the variance of the residuals is a measure of idiosyncratic risk (Luo and Bhattacharya 2009).

**Brand Portfolio Strategy**

Most companies operating in today’s complex market environment own and manage a brand portfolio: a complex set of brands designed in response to market fragmentation, channel dynamics, global realities, heightened competition, commoditization, and pressures to leverage and extend existing brand assets in cost-effective ways. Firms are motivated to be concerned with brand portfolio strategy because it provides the structure and discipline needed to support and enable a successful business strategy (Aaker 2004a). Brand portfolio strategy becomes particularly salient when a company confronts pressing growth goals or pending mergers, acquisitions, and alliances. CEOs acknowledge brand portfolio strategy as a powerful driver of shareholder value and thus a crucial boardroom decision (Court, Leiter, and Loch 1999).

Five portfolio strategy variations along what has been referred to as the brand relationship spectrum help firms structure and organize their branded offerings in a way that best meets market conditions and company goals (Aaker 2004a; Aaker and Joachimsthaler 2000a; Franzen 2009; Laforet and Saunders 1999). The spectrum includes branded house, sub-branding, endorsed branding, and house of brands strategies, as well as a hybrid mix of the above. The five strategies differ significantly in (1) their leverage and prominence or visibility of corporate brand equity (i.e., the corporate brand connection), and (2) the specific brand entity that drives consumer behavior (i.e., the brand driver role); these variations in turn affect expected patterns of rewards and risks. Figure 2 provides a summary of the different strategic options along the brand relationship spectrum.

\textsuperscript{1} <http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html>
Figure 2: The Brand Relationship Spectrum

<table>
<thead>
<tr>
<th>Corporate Brand Driver Role (Perceptual dimension)</th>
<th>Brand Portfolio Strategy</th>
<th>Corporate Brand Visibility/Prominence (Physical dimension)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong</td>
<td>Branded House</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>e.g., Boeing, Fedex, IBM, Tiffany &amp; Co, Starbucks, United Parcel Service (UPS)</td>
<td>N=86 (28%)</td>
</tr>
<tr>
<td>Weak</td>
<td>Sub-branding</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>e.g., Apple, Bausch &amp; Lomb, Intel, Analog Devices, Microsoft</td>
<td>N=30 (10%)</td>
</tr>
<tr>
<td></td>
<td>Endorsed Branding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e.g., 3M, Intuit, AstraZeneca, Genzyme</td>
<td>N=18 (6%)</td>
</tr>
<tr>
<td></td>
<td>House of Brands</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e.g., Darden Restaurants, Fortune Brands, Procter &amp; Gamble, Yum! Brands</td>
<td>N=38 (12%)</td>
</tr>
</tbody>
</table>

Hybrid Strategy
Combination of above branding strategies
e.g., Black & Decker, Sysco, Heinz, Kimberly Clark Corporation, Limited Inc., Campbell Soup, Gillette Corporation, Hershey Food Corporation
To understand the possible relationships between portfolio strategy and shareholder value, we rely on the conceptual framework of market-based assets and the risks to cash flows (Day and Fahey 1998; Srivastava, Shervani, and Fahey 1998). The portfolio strategies are discussed below, in an order that facilitates comparisons in expected risk and return tradeoffs related to theoretical differences in the strategy types. Although the spectrum is in essence a continuum, we begin with the popular contrast offered in the pure Branded House versus House of Brands extremes (Olins 1989; Kitchen and Schultz 2001; Laforet and Saunders 1994; Rao, Agarwal, and Dahlhoff 2004). Variants on these classic strategies are then considered as we compare branded house with sub-branding, and sub-branding with endorsed branding, so as to isolate the effects of corporate brand connections and brand driver roles. We close with hypotheses regarding the hybrid/mixed strategy which builds from a financial portfolio model approach.

**Branded House Strategy.** Under the branded house strategy, the corporate master brand acts as the single unifying banner, source of reputation, and federating force for all product and service offerings in the portfolio (Aaker and Joachimsthaler 2000a,b). All offerings in the branded house carry only the corporate umbrella brand, often with a descriptor to clarify models or variations. BMW provides a classic example in the BMW 3-series, BMW 5-series, BMW 7-series, and BMW Z3 models. IBM provides a second example in which the corporate umbrella provides unification across operations in different business sectors (IBM IT Services, IBM Business Consulting, IBM Outsourcing Services, and IBM Information Management).

Because of expected advantages in clarity, leverage, and synergy, consultants consider the branded house as the default portfolio option (Aaker and Joachimsthaler 2000a). As Rao et al. (2004) have shown, branded house strategies offer higher returns resulting from significant supply-side economies of scale and scope in marketing. Most notable are efficiencies and synergies in advertising and communications that accrue from the creation and maintenance of equity in one strong brand; efficiencies in sales, distribution, service, overhead, administration, and operating costs can also be obtained (Barwise and Robertson 1992). Further, high levels of customer awareness, clarity of brand understanding, and credibility in an established corporate umbrella can also be readily leveraged to new branded offerings, thus increasing the visibility and perceived quality of new brand extensions and reducing uncertainties that can prohibit new product sales (Aaker and Keller 1990; Keller 1993). By leveraging existing brand equity, the company can pursue new product opportunities while taking advantage of scale economies in cost expenditures to achieve higher financial returns (Barwise and Robertson 1992). Although the branded house suffers from demand-side disadvantages related to limits on brand stretch and expansion capability (Aaker and Joachimsthaler 2000b), Rao et al.’s (2004) finding of branded house out-performance suggests that supply-side advantages outweigh the demand-side disadvantages that the strategy creates.

Basic finance theory supports that higher risks are associated with higher returns (Fama and French 1993; Ghysels, Santa-Clara and Valkanov 2005), and because the branded house puts all its eggs in one highly visible and leveraged brand basket, it is also generally accepted that this strategy exposes the firm to significant systematic and idiosyncratic risks (Aaker 2004b; Aaker and Joachimsthaler 2000b). By linking one brand to multiple offerings, a quality failure or reputation crisis affecting one product or service in the brand family can spill over and tarnish some or all of the remaining products and brands (Erdem and Sun 2002; Keller and Sood 2003; Roedder-John, Loken, and Joiner 1998). As Buday (1989) notes, feedback effects are especially important in a branded house since “each new introduction under a parent brand umbrella forces the consumer to redefine what the brand stands for” (p. 29). Although positive information can lead to enhancement under brand extension, negative information is particularly diagnostic, and can readily dilute the corporate umbrella brand (Ahluwalia and Gurhun-Canli 2000). Crises at the corporate-brand versus product level are especially salient, and tend to be interpreted by the financial community as a signal of substantial financial loss (Gray and Balmer 1998). Longitudinal research has also shown that negative image feedback effects may happen even with successful corporate brand extensions, rendering the spillover risks from corporate brand association to be especially high (Volckner, Sattler, and Kaufmann 2008).

Dilution risks from overstretching the corporate umbrella are also present (Bridges, Keller, and Sood 2000; Loken and Roedder-John 1993; Swaminathan, Fox, and Reddy 2001) and become yet greater as temptations to extend corporate brands into new categories increasingly take hold (Reddy and Terblanche 2005). As the corporate brand enters more and more categories, consumers (and likely investors) become confused and
begin to doubt whether consistent high quality can be delivered and maintained (Dacin and Smith 1994; Volckner, Sattler and Kaufmann 2008). While extension opportunities involving conflicting or limiting corporate brand associations can be resisted, this does not neutralize risks since limits to growth in lost niche opportunities then prevail (Aaker 2004b). Increasing risk further, the branded house also lacks tactical resiliency in that established corporate brand meanings can constrain responsiveness in times of needed evolution and change (Aaker 2004b; Aaker and Joachimsthaler 2000b). The disadvantages in cash flow stability that emanate from these realities of the branded house strategy likely lead to higher levels of systematic and idiosyncratic risk.

**House of Brands Strategy.** At the other extreme is the house of brands strategy wherein a company operates entirely through an independent set of stand-alone brands while keeping the corporate brand itself discreet. In this strategy, all brand equity resides expressly at the individual brand level: that is, each individual brand stands as a central source of reputation, attention, and investment in and of itself. Noted examples of companies adopting the house of brands strategy are Procter & Gamble with 80-plus major brands (e.g., Pampers, Tide, Max Factor, Duracell, Bounty, Crest), none of them linked to P&G or to each other except as required by law (e.g., for customer complaint registration). Unilever provides a second notable example, with a portfolio containing Dove, Axe, Bertolli, Lipton, and Slimfast as well as nearly 400 other brands.

Companies that organize their offerings as independent, stand-alone brands gain significant demand-side advantages. Brands in a house of brands portfolio benefit from being optimized in design, brand name, brand identity, brand personality, brand values, brand positioning, and communication for specific niche market segments, and thus develop an intimate connection with targeted customers that other strategies cannot provide. The house of brands offers tactical flexibility and increased market coverage, thus yielding lower vulnerability and volatility in expected cash flows. Without the constraints on positioning that are imposed by the corporate brand in the branded house strategy, the house of brands can readily take advantage of emergent market opportunities, and respond with new offerings to market evolution and change. In addition, multiple brands provide opportunities to manage conflicting categories and channels (Keller and Lehmann 2006). These demand-side advantages help insulate the firm from the impact of stock market downturns, thus lowering systematic risk. The independent, multi-brand structure also shields the house of brands from idiosyncratic risks of dilution and negative image spillovers since each brand is customer-specific, separate, and contained.

On the flip side, this independent brand structure creates dramatic supply-side inefficiencies in marketing, operations, and communications that constrain and enhance the volatility and vulnerability of future cash flows. Studies demonstrate time and again that marketing support is a primary driver of brand success (Reddy, Holak and Bhat 1994; Volckner and Sattler 2006) and separate brands fragment available marketing funds. It is often the case that the separate brands cannot themselves support investment, leading to a slowdown of revenues because of stagnation in small or struggling brands and overall deterioration of cash flows (Aaker 2004b). In the worst case wherein a brand needs to be cancelled, brand building efforts and investments are lost.

The preceding discussion leads to the following hypotheses supporting greater returns and higher risk for the unifying branded house strategy vis-à-vis the stand-alone house of brands.

- **H₁:** The branded house strategy generates higher abnormal returns than the house of brands strategy.
- **H₂a:** The branded house strategy is associated with higher levels of systematic risk than the house of brands strategy.
- **H₂b:** The branded house strategy is associated with higher levels of idiosyncratic risk than the house of brands strategy.

**Sub-branding.** With sub-branding, the corporate brand and a linked second brand contribute meanings to consumers’ perceptions and influence the decisions that they make. Sub-brands stretch and modify the corporate master brand by adding attribute and benefit associations (e.g., Bausch & Lomb RENU, Bausch & Lomb ClearCare, Martha Stewart Everyday) or signaling a different category, market segment, or business unit
(e.g., Apple Macintosh, Microsoft Word, Martha Stewart Living Magazine). Although the sub-brand is typically sub-ordinate to the corporate master brand in its dominance and influence on consumer experiences and decisions (e.g., Intel Pentium), the corporate master brand and the sub-brand can be similarly prominent and share this driver role (e.g., Apple IPod). In either case, the corporate brand remains highly visible and is clearly linked to the sub-brand using communication and design cues such as font styles and sizes, graphics, and physical placement on product packaging and advertising. Figure 3 provides visual examples of sub-branding as a two-brand strategy uniting different branded offerings under a corporate umbrella brand.
Figure 3: A Comparison of Sub-Branding and Endorsed Branding Portfolio Strategies

<table>
<thead>
<tr>
<th>Sub-branding</th>
<th>Endorsed Branding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>3M</td>
</tr>
<tr>
<td>Intel</td>
<td>Intuit</td>
</tr>
</tbody>
</table>

![Sub-branding Examples](image1)

![Endorsed Branding Examples](image2)
Theoretically, sub-branding is a variant of the branded house strategy since all branded offerings are strongly linked to a highly visible corporate master brand (Devlin 2003; Franzen 2009). As such, a key motivation for sub-branding is to gain supply-side economies in marketing, communication, operations and distribution offered through associations with the corporate brand (Aaker 2004b). But, sub-branding also allows firms to gain some of the demand-side advantages associated with targeting segments with optimized and distinctive brands. With the synergistic opportunity for both demand- and supply-side economies, we expect cash flow advantages to accrue from sub-branding that are not delivered through a pure branded house.

Because all sub-brands maintain a strong connection to the corporate brand, sub-branding also exposes the firm to the same categorical risks of dilution and negative spillover that plague the branded house. In fact, it is possible that dilution risks are heightened with sub-branding since the presence of separate brands offers a perceived sense of protection against cautions not to overextend the corporate brand. As a result, the corporate brand may be more readily extended across additional categories, segments, and brand entities with which incompatible or conflicting brand associations are involved. As the raw number of brands in the sub-brand portfolio increases, risks for quality failures, reputation crises and negative spillover increase in kind. This logic is also in line with finance research supporting higher risks in conjunction with greater returns (Fama and French 1993; Ghysels, Santa-Clara, and Valkanov 2005). Hence:

H₃: Sub-branding generates higher abnormal returns than a pure branded house strategy.

H₄a: Sub-branding is associated with higher levels of systematic risk than the branded house strategy.

H₄b: Sub-branding is associated with higher levels of idiosyncratic risk than the branded house strategy.

**Endorsed Branding.** Similar to sub-branding, endorsed branding also involves two brands—the corporate master brand and a second brand—but in this case, the second brand is super-ordinate, more prominent and more visible, and plays the critical driver role. Most well-known are examples that explicitly identify the corporate brand in a supportive endorsement role (e.g., Fairfield Inn by Marriott, Courtyard by Marriott, Polo by Ralph Lauren), but the endorsement can be more implicit. Consider, for example, 3M brand Post-it products. The 3M corporate brand logo is consistently used in brand design, packaging, and communications but it is less prominent and visible than the Post-it brand; the corporate logo is distanced physically from and implied as inferior to this second brand. When asked, “What brand did you buy or use?” (i.e., the driver role) consumers likely cite Post-it as opposed to 3M as critically influencing their decisions. The role of the corporate endorser is to provide reassurance and credibility: 3M serves as a seal of approval to assure customers that Post-it products will live up to the creative vision and high quality performance of the corporation serving the endorser role. Similarly, General Mills places its “Big G” logo on cereal packages but retains distinct and distanced brands such as Cheerios and Wheaties. Figure 3 provides two examples of endorsed branding to highlight the brand signaling cues that distinguish it from sub-branding.

Corporate endorsement is increasingly used as a mechanism to integrate the brand structure across markets and launch new product offerings (Rajagopal and Sanchez 2004). Endorsed branding, like sub-branding, seeks some of the advantages of having a known organization backing the brand but tries to minimize any association contamination (Rajagopal and Sanchez 2004). Through emphasis on separate brands that can capitalize on market segmentation opportunities and optimize offerings for specific targets, endorsed branding, like the house of brands strategy, grants demand-side advantages to the firm (Rajagopal and Sanchez 2004). In the same vein, the strategy also bears significant bottom-line costs and inefficiencies, however, as companies struggle to support adequate investments in their portfolio of brands (Dooley and Bowie 2005). Rao et al’s (2004) finding that financial markets seem to overweigh supply-side costs vis-à-vis demand side advantages suggests that endorsed branding will underperform sub-branding in returns performance though both seek benefits from the association of independent and corporate brands.

Endorsed branding should yield lower risks in line with expectations for lower returns (Ghysals, Santa-Clara, Valkanov 2005). Consumer research provides evidence of the risk control advantages that endorsed branding can afford. Park, McCarthy, and Milberg (1993) show that squarely shifting focus away
from the corporate brand to a second super-ordinate brand mitigates risks of dilution and negative spillover while preserving the desired effects of association with a corporate brand. They suggest that: “the combination of the new brand and the familiar corporate brand allows consumers to selectively transfer existing brand attitudes and beliefs to the associated brand; this allows the consumer to differentiate the extension from other products associated with the (corporate) brand name, thereby reducing the likelihood of negative reciprocity effects” (p.29). Importantly, endorsed branding mitigates negative feedback effects emanating from poor fit or inconsistent image vis-à-vis sub-branding, which also seeks dual benefits from separate branding and association with the corporate brand (Milberg, Park and McCarthy 1997). Vis-à-vis sub-branding, endorsed branding offers a greater chance to accommodate conflicts and control dilution risks as each brand builds its own identity while maintaining a distanced connection with the corporate brand (Dooley and Bowie 2005; Keller 1999). We propose:

- **H5:** Endorsed branding generates lower abnormal returns than a sub-branding strategy.
- **H6a:** Endorsed branding is associated with lower levels of systematic risk than sub-branding.
- **H6b:** Endorsed branding is associated with lower levels of idiosyncratic risk than sub-branding.

**Hybrid brand Strategy.** Companies using a hybrid strategy combine at least two of the four portfolio options discussed above (Franzen 2009). Colgate-Palmolive Company, for example, uses not only Colgate and Palmolive as customer-facing brands but also goes to market with individual brands such as Softsoap, Speed Stick, and Irish Spring; Heinz offers Heinz ketchup and pickles, but also Classico, Ore-Ilda and T.G.I. Friday’s. The hybrid strategy follows the logic of modern portfolio theory in finance (Markowitz 1952), wherein the portfolio contains a mix of investment targets. Through diversification, financial performance is balanced across strategies in the portfolio, each of which exposes the firm to different systematic and idiosyncratic risks. Using this same logic, the diversification offered in the hybrid brand portfolio strategy suggests outperformance in terms of both returns and risks. The hybrid strategy provides the most flexibility of all portfolio structures, and allows the firm to selectively leverage particular brand entities to address emergent and conflicting strategy needs (Rajagopal and Sanchez 2004).

- **H7:** The hybrid strategy generates the highest abnormal returns among all portfolio strategy options.
- **H8a:** The hybrid strategy generates the lowest levels of systematic risk among all portfolio strategy options.
- **H8b:** The hybrid strategy generates the lowest levels of systematic risk among all portfolio strategy options.

**Control Variables**

We include six firm and sector characteristics as control variables in order to rule out alternative explanations for our main results relating brand portfolio strategy to shareholder value and risk: advertising, operating margins, diversification, number of brands, B2B versus B2C, and industry sectors. First, we control for a firm’s advertising expenditures since research has shown that advertising increases stock returns (Srinivasan et al. 2009; Joshi and Hanssens 2010), lowers systematic market risk (McAlister, Srinivasan and Kim 2007) and increases idiosyncratic risk (Osinga et al. forthcoming). Our second control variable is operating margins since previous literature has demonstrated that stock returns react to changes in a firm’s operating margins (Pauwels et al. 2004). Third, we control for diversification as measured by the number of segments that a firm operates in. Investors appreciate the economies-of-scale and scope in creating and maintaining brand portfolios that are afforded to diversified firms operating across sectors (Morgan and Rego 2009). Diversified firms are also better able to manage risk by strategically coordinating advertising and marketing campaigns across diverse sectors (Fischer, Shin and Hanssens 2009). Our fourth control variable is the number of brands in the portfolio. This is included because investors value the considerable synergies in marketing afforded to firms with a larger number of brands (Morgan and Rego 2009).
In addition, we are also interested in examining whether there is a difference in abnormal returns and risk components for business-to-business (B2B) firms versus business-to-consumer (B2C) firms. Recently, Rao et al. (2004) found that the effect of a branded house strategy was higher for B2B firms than for B2C firms, and that the house of brands strategy effect was not significant for B2B firms. We control for this variable given this finding of differential effects for these two types of firms. Finally, to control for industry-specific effects, we included sector dummy variables which have been shown to explain variations in shareholder value and risk (Eng and Keh 2007; Short et al. 2007; Stelianos and Thomas 2006).

Data and Operationalization of Variables

Sample

Our initial sample consists of 400 firms using data obtained from multiple sources. First, we obtained monthly stock returns (1996-2006) for all companies from the CRSP financial dataset. Second, we used monthly data for the Fama-French/Carhart factors from Kenneth R. French’s website (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html). Third, we obtained accounting, financial, and advertising data on firms from COMPSTAT. Finally, we conducted an extensive coding of the brand portfolio strategy of each firm, described in detail below, using various primary and secondary data sources. Starting with our initial sample of 400 firms, we excluded 94 companies for reasons including insufficient or missing data, intractable and complex corporate structures (e.g., predominance of partially-owned subsidiaries), illegal accounting activity over the time frame of analysis (e.g., Enron), and mergers and acquisitions in the timeframe under consideration which precluded a clean classification of the firm’s brand portfolio strategy. This resulted in a usable sample of 306 firms. Overall, our sample compares favorably with the S&P 500 firms in terms of two critical performance variables, stock returns and operating margins: the multivariate T-test results in a Hotelling’s T² value of 2.379, which is not significant.

Operationalization of Brand Portfolio Strategy

To classify manifest brand portfolio strategies (Rao et al. 2004), we considered one of the two theoretical notions qualifying options along the brand relationship spectrum: leverage of the corporate brand name. Corporate brand leverage was operationalized using two indicators: (1) the percent of revenues attributed to products and services bearing the corporate brand name, and (2) the visibility, emphasis, or prominence of the corporate brand name on branded products and services, packaging, and marketing communications. Our portfolio strategy classification exercise included a strict company-by-company analysis using databases including Datamonitor, Nielsen, LexisNexis, Wikiinvest, United States Securities and Exchange Commission (SEC), Mergent Online, Hoover’s Online, and Mintel as well as company websites, news articles, product brochures, and annual reports. Three MBA students coded firms independently using a sequential process to classify a firm’s brand portfolio strategy in terms of the above variables. The coders, plus a team of three academic researchers, met as a panel to review data and recommended classifications and to negotiate final portfolio strategy codes. Final coder agreement was 98%.

Classification decisions proceeded as follows. First, coders examined every resource listed above to determine the different branded product and service offerings marketed by the firm during the research time period. This task was complex as many firms participated in both business-to-business and business-to-consumer markets using hundreds of customer-facing brands. Mergers and acquisitions across the time period added yet more complexity to the task. As a second step, the percentage of revenue derived from products and services bearing the corporate brand name was calculated. Revenue from corporate branded products and services was defined as any revenue generated by a product/service which displayed a corporate name or symbol on the product/service or its packaging, irrespective of the dominance or prominence of the corporate brand name, or the presence/absence of any other brand. If 0% of firm

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2 The brand driver role, the second factor qualifying strategies along the brand relationship spectrum, while useful in conceptualizing alternate portfolio strategies, proved infeasible to apply in practice. For example, to determine the brand driver roles for Unilever alone requires consumer survey input on 400-plus brands. We focus instead on leveraging of the corporate brand name in light of its availability, objectivity, and ready practical application.
revenues derived from products/services bearing the corporate name in any capacity, the firm was coded as adopting a house of brands strategy (e.g., Yum! Brands).

If 100% of the firm’s revenues derived from products/services bearing the corporate brand name, the branded offerings were then closely examined to determine if the strategy was more appropriately considered a branded house, sub-branding, or endorsed branding. Firms with branded offerings identified only by the corporate brand (e.g., The Boeing Company), or by the corporate brand plus product or model descriptors (e.g., BMW), were classified as adopting a branded house strategy. If two brands were used as part of the naming convention—the corporate brand plus some other second brand—we considered the visibility, emphasis, and prominence of the corporate brand as indicated by various factors including the font styles used, the relative size of fonts, and the order or placement of brand names on the package as foreground versus background (Keller 1999). Strategies in which the corporate brand was dominant and prominent on all offerings (e.g., Intel), or received equal visibility to the second brand (e.g., Apple and iPod), were coded as adopting sub-branding. Strategies in which the corporate brand was always sub-ordinate to a more prominent and dominant second brand (e.g., Post-it and 3M Corporation) were coded as adopting endorsed branding.

The hybrid/mixed strategy included firms which derived 1%-99% of revenues from products bearing the corporate brand name and thereby could not be classified using the above coding rules. In line with Franzen’s (2009) definition of hybrid as including some combination of corporate branding strategies, the hybrid strategy breakdown is as follows: 92 firms (69%) with a combination of branded house and house of brands; 12 firms (9%) with branded house, endorsed branding, and house of brands; 11 firms (8%) with branded house, sub-branding, and house of brands; 11 firms (8%) with sub-branding and house of brands; and 8 firms (6%) across all remaining strategy combinations.

The brand portfolio strategies manifest in our final sample of 306 firms are as follows: 86 firms (28%) branded house, 30 firms (10%) sub-branding, 18 firms (6%) endorsed branding, 38 firms (12%) house of brands, and 134 firms (44%) hybrid/mixed. The predominance of the hybrid strategy in our sample is in line with industry reports on brand portfolio strategies among contemporary firms (Franzen 2009; Laforet and Saunders 1994; Rajagopal and Sanchez 2004).

Operationalization of Dependent and Control Variables

We obtain monthly stock return (1996-2006) for all companies from the Center for Research on Stock Prices (CRSP) dataset. Monthly data for the Fama-French/Carhart factors are available from French’s website.

Operationally, we use the ratio of advertising expenditures to total assets (Srinivasan et al. 2009). Operating margin is measured as the ratio of net income before depreciation to sales (Ferreria and Laux 2007). For the B2B versus B2C designation, we created two dummy variables indicating whether the company was present in the business-to-business market (coded 1,0), the business-to-consumer market (coded 0,1), or both (coded 0,0). Using North American Industry Classification System (NAICS) operating codes, we identify the total number of segments in which a given firm markets its brands. To measure sector effects, we used dummy variables to identify the dominant industry sectors per NAICS two-digit economic sector codes across our sample. Four dummy variables representing 80% of our sample were coded: Manufacturing (50%), Retail (14%), Information (8%), and Finance & Insurance (8%). A variety of sources were scrutinized to determine the number of brands in a given company portfolio including company annual reports, company websites, 10-Ks, and Hoover’s. We apply the moving window method for all control and dependent variables to obtain time-varying measures (e.g., McAlister et al. 2007). The Appendix provides definitions, data sources, and literature sources for the dependent and control variables in our research.

Research Methodology

Assessing the Impact of Brand Portfolio Strategy on Stock Returns and Risk

Our research methodology proceeds in two steps. First, we estimate the well-established benchmark in the finance literature, i.e. the four-factor explanatory model, to obtain the three components of shareholder value: levels of abnormal returns, systematic risk, and idiosyncratic risk. Next, we assess the impact of brand
portfolio strategy on each of these components, abnormal returns, systematic risk and idiosyncratic risk, estimated in the first stage.

Step 1: Assessing Stock Returns and Components of Risk

The dependent variables of interest—stock returns, systematic risk and idiosyncratic risk—are inherently long-term constructs that change slowly over time (Braun, Nelson and Sunier 1995). Ghysels (1998), for example, argues that systematic risk changes slowly over time and that an overly volatile measure might lead to worse predictions than a model with a static effect. The risk parameters in both the CAPM and four-factor model have been frequently estimated over long data windows. For example, Carhart (1997) uses 30 years of data with differing portfolios while McAlister, Srinivasan, and Kim (2007) use 5-year windows of firm-level data to estimate CAPMs. We therefore base our specifications for returns, systematic risk and idiosyncratic risk on moving-window methodology to capture the dynamic patterns in these measures over time. Specifically, we use monthly stock returns of each company and three-year moving windows to estimate the dependent variables, resulting in up to 9 observations per firm. For the first window, we use the data from 1996-1998, for the second window we use data from 1997-1999, and so on. For the final window, we use data from 2004-2006. This allows us to obtain time-varying estimates of stock returns and risk which we relate to brand portfolio strategies while controlling for the dynamic changes in the drivers such as advertising, operating margins, and other firm and industry control variables, etc.

Step 2: Assessing the Impact of Brand Portfolio Strategy on Stock Returns and Risk

In step two, we assess the impact of brand portfolio strategy on abnormal returns ($\alpha$), systematic risk ($\beta$) and idiosyncratic risk ($\gamma$) obtained from the first stage. We consider five brand portfolios: branded house ($BH$), sub-branding ($SB$), endorsed branding ($EB$), house of brands ($HOB$) and hybrid/mixed. We include as control variables advertising, operating margins, pure B2B vs. pure B2C, number of brands, number of segments, and sector dummy variables. This results in the following system of equations:

\[ \alpha_{it} = \alpha_1 + \phi_{11} Advertising_{it} + \phi_{12} Operating\ Margin_{it} + \phi_{13} B2B_{it} + \phi_{14} B2C_{it} \\
+ \phi_{15} Number\ of\ Brands_{it} + \phi_{16} Number\ of\ Segments_{it} + \sum_{j=1}^{4} \tau_{1j} Sector_j \\
+ \theta_{1} BH_{i} + \rho_{1} SB_{i} + \eta_{1} EB_{i} + \omega_{1} HOB_{i} + \varepsilon_{1it} \]

\[ \beta_{it} = \alpha_2 + \phi_{21} Advertising_{it} + \phi_{22} Operating\ Margin_{it} + \phi_{23} B2B_{it} + \phi_{24} B2C_{it} \\
+ \phi_{25} Number\ of\ Brands_{it} + \phi_{26} Number\ of\ Segments_{it} + \sum_{j=1}^{4} \tau_{2j} Sector_j \\
+ \theta_{2} BH_{i} + \rho_{2} SB_{i} + \eta_{2} EB_{i} + \omega_{2} HOB_{i} + \varepsilon_{2it} \]

\[ \gamma_{it} = \alpha_3 + \phi_{31} Advertising_{it} + \phi_{32} Operating\ Margin_{it} + \phi_{33} B2B_{it} + \phi_{34} B2C_{it} \\
+ \phi_{35} Number\ of\ Brands_{it} + \phi_{36} Number\ of\ Segments_{it} + \sum_{j=1}^{4} \tau_{3j} Sector_j \\
+ \theta_{3} BH_{i} + \rho_{3} SB_{i} + \eta_{3} EB_{i} + \omega_{3} HOB_{i} + \varepsilon_{3it} \]

where $BH$, $SB$, $EB$ and $HOB$ are the dummy variables for branded house, sub-brands, endorsed brands and house-of-brands, respectively. We obtain the effects of the hybrid/mixed brand portfolio strategy from the intercepts $\alpha_1$, $\alpha_2$ and $\alpha_3$. We assume the error terms to be normally distributed and use regression analysis to estimate the system of equations.
Empirical Results

The Effects of Brand Portfolio Strategy on Firm Value and Components of Risk

Tables 1 and 2 provide descriptive statistics and correlations between the variables in the data set. The variance inflation factors (VIF) range from 1.07 to 2.99, which indicates that multicollinearity among the variables is not an issue in the model.

Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal returns</td>
<td>0.544</td>
<td>1.964</td>
<td>-10.17</td>
<td>14.57</td>
</tr>
<tr>
<td>Systematic risk</td>
<td>1.021</td>
<td>0.751</td>
<td>-4.46</td>
<td>12.24</td>
</tr>
<tr>
<td>Idiosyncratic risk</td>
<td>8.992</td>
<td>4.303</td>
<td>.41</td>
<td>34.59</td>
</tr>
<tr>
<td>Advertising expenditures*</td>
<td>0.049</td>
<td>0.058</td>
<td>0</td>
<td>.45</td>
</tr>
<tr>
<td>Operating margin*</td>
<td>0.064</td>
<td>0.108</td>
<td>-.91</td>
<td>1.88</td>
</tr>
<tr>
<td>Number of brands</td>
<td>30.431</td>
<td>92.332</td>
<td>1</td>
<td>1388</td>
</tr>
<tr>
<td>Number of segments</td>
<td>7.634</td>
<td>6.019</td>
<td>1</td>
<td>27</td>
</tr>
</tbody>
</table>

*Note: Advertising denotes the ratio of advertising expenditures to total assets and operating margin denotes the ratio of net income before depreciation to sales.
### Table 2: Correlation Matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal returns</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systematic risk</td>
<td>-0.099***</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Idiosyncratic risk</td>
<td>0.255***</td>
<td>0.292***</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advertising</td>
<td>0.003</td>
<td>-0.166***</td>
<td>0.041</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating margin</td>
<td>0.117***</td>
<td>-0.204***</td>
<td>-0.305***</td>
<td>-0.049</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of brands</td>
<td>-0.027</td>
<td>-0.118***</td>
<td>-0.146***</td>
<td>0.068**</td>
<td>0.117***</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Number of segments</td>
<td>0.031*</td>
<td>-0.106***</td>
<td>-0.206***</td>
<td>-0.039</td>
<td>-0.044***</td>
<td>-0.040**</td>
<td>1.000</td>
</tr>
</tbody>
</table>

*p < .10.

**p < .05.

***p < .01.

We present the results of five-category brand portfolio strategy model in Table 3 and report results for branded house, sub-branding, endorsed branding, house of brands and mixed/hybrid strategies to test the series of hypotheses H1 – H8. In testing our hypotheses, we perform the Wald test to test the linear restrictions after estimation (Greene 2007).³

³Given the linear regression model: \( y = x\beta + u \), any set of linear restrictions on the coefficient vector can be expressed as \( R\beta - r \) where \( R \) is a \( q \times k \) matrix and \( r \) is a \( q \)-element column vector, with \( q < k \). The null hypothesis is \( H_0: R\beta - r = 0 \); the test statistic is the Wald statistic: \( W = (R\hat{\beta} - r)'(R(V)^{-1}R')^{-1}(R\hat{\beta} - r) \) distributed as a chi-square.
Table 3: Estimation Results for Brand Portfolio Strategies

<table>
<thead>
<tr>
<th>Drivers</th>
<th>Abnormal Returns</th>
<th></th>
<th>Systematic Risk</th>
<th></th>
<th>Idiosyncratic Risk</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>SE</td>
<td>Coefficient</td>
<td>SE</td>
<td>Coefficient</td>
<td>SE</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.754 ***</td>
<td>0.24</td>
<td>1.457 ***</td>
<td>0.096</td>
<td>9.479 ***</td>
<td>0.500</td>
</tr>
<tr>
<td>Branded house</td>
<td>0.912 ***</td>
<td>0.159</td>
<td>0.059</td>
<td>0.063</td>
<td>2.060 ***</td>
<td>0.332</td>
</tr>
<tr>
<td>Sub-brand</td>
<td>1.354 ***</td>
<td>0.223</td>
<td>0.200 **</td>
<td>0.089</td>
<td>4.053 ***</td>
<td>0.466</td>
</tr>
<tr>
<td>Endorsed brand</td>
<td>0.252</td>
<td>0.328</td>
<td>-0.077</td>
<td>0.131</td>
<td>-0.056</td>
<td>0.683</td>
</tr>
<tr>
<td>House of brands</td>
<td>0.639 ***</td>
<td>0.171</td>
<td>-0.136 **</td>
<td>0.068</td>
<td>0.404</td>
<td>0.357</td>
</tr>
<tr>
<td>Advertising</td>
<td>3.183 ***</td>
<td>1.105</td>
<td>-1.698 ***</td>
<td>0.443</td>
<td>7.491 ***</td>
<td>2.301</td>
</tr>
<tr>
<td>Operating margin</td>
<td>2.323 ***</td>
<td>0.458</td>
<td>-1.347 ***</td>
<td>0.183</td>
<td>-9.850 ***</td>
<td>0.954</td>
</tr>
<tr>
<td>B-to-B</td>
<td>0.649 **</td>
<td>0.229</td>
<td>0.196 **</td>
<td>0.092</td>
<td>0.544</td>
<td>0.478</td>
</tr>
<tr>
<td>B-to-C</td>
<td>-0.176</td>
<td>0.167</td>
<td>0.033</td>
<td>0.067</td>
<td>-0.264</td>
<td>0.347</td>
</tr>
<tr>
<td>Number of brands</td>
<td>-0.001</td>
<td>0.0008</td>
<td>-0.0066 **</td>
<td>0.0003</td>
<td>-0.005 ***</td>
<td>0.001</td>
</tr>
<tr>
<td>Number of segments</td>
<td>0.024 **</td>
<td>0.010</td>
<td>-0.009 **</td>
<td>0.004</td>
<td>-0.157 ***</td>
<td>0.022</td>
</tr>
<tr>
<td>Manufacturing sector</td>
<td>0.320</td>
<td>0.202</td>
<td>-0.254 ***</td>
<td>0.081</td>
<td>0.450</td>
<td>0.421</td>
</tr>
<tr>
<td>Retail sector</td>
<td>0.791 ***</td>
<td>0.212</td>
<td>-0.253 ***</td>
<td>0.085</td>
<td>0.971 **</td>
<td>0.442</td>
</tr>
<tr>
<td>Information sector</td>
<td>0.983 ***</td>
<td>0.288</td>
<td>-0.154</td>
<td>0.115</td>
<td>0.702</td>
<td>0.600</td>
</tr>
<tr>
<td>Finance &amp; Insurance sector</td>
<td>0.206</td>
<td>0.325</td>
<td>-0.197</td>
<td>0.130</td>
<td>-2.174 ***</td>
<td>0.677</td>
</tr>
<tr>
<td>R²</td>
<td>0.115</td>
<td>0.114</td>
<td>0.255</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of observations</td>
<td>1115</td>
<td>1115</td>
<td>1115</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>χ²</td>
<td>145.16</td>
<td>143.50</td>
<td>382.33</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .10.
**p < .05.
***p < .01. SE denotes the standard error of the estimates
Our results show that the branded house strategy is associated with higher abnormal returns relative to a house of brands strategy though the Wald test result shows that this difference is not statistically significant. This result provides directional support for H1, and Rao et al. (2004)’s finding that branded house strategies emphasizing a unifying corporate brand are correlated with higher values of Tobin’s q whereas the house of brands strategy, emphasizing stand-alone sub-brands, is correlated with lower values of Tobin’s q.

The branded house strategy does manifest higher systematic risk relative to the house of brands strategy ($\chi^2_{dfs} = 6.09, p < .01$) and is also associated with higher idiosyncratic risk ($\chi^2_{dfs} = 16.22, p < .01$) as compared to the house of brands strategy. Together, these results lend support to H2a and H2b suggesting that investors indeed recognize that a branded house strategy which puts all eggs in one brand basket exposes itself to higher levels of risk relative to a house of brands.

In line with H3, the sub-branding strategy has higher returns than a branded house strategy ($\chi^2_{dfs} = 3.55, p < .05$). This implies that investors likely appreciate that sub-branding synergistically enhances demand-side benefits while maintaining scale and scope economies on the supply-side afforded by the use of the unified corporate brand. As for the components of risk, sub-branding is associated with higher idiosyncratic risk ($\chi^2_{dfs} = 16.67, p < .01$) and higher systematic risk, though not significant, than the branded house strategy, thus offering support for H4b and directional support for H4a. These results suggest that investors view the sub-branding strategy as having greater potential for risk spillover for multiple brands, all carrying the corporate name, thus worsening the firms’ financial risk profile. These findings for sub-branding are also in line with financial research supporting higher risks in conjunction with greater returns (Fama and French 1993; Ghysels, Santa-Clara, and Valkanov 2005).

We test hypotheses H5, H6a and H6b by comparing the returns and risks associated with sub-branding versus endorsed branding. The endorsed branding strategy is associated with lower levels of returns ($\chi^2_{dfs} = 8.83, p < .01$) versus sub-branding, lending support to H5 and in line with Rao et al’s (2004) inference that financial markets overweight supply-side costs vis-à-vis demand side advantages from segmenting and targeting opportunities afforded by multiple brands. Endorsed branding has lower levels of both systematic risk ($\chi^2_{dfs} = 3.52, p < .10$) and idiosyncratic risk ($\chi^2_{dfs} = 28.34, p < .01$) compared to sub-branding, in line with H6a and H6b. These findings suggest that investors recognize that shifting focus away from the corporate brand to a second super-ordinate brand mitigates risks of dilution and negative spillover.

To further clarify the outperformance of the sub-branding strategy, we also compare sub-branding to the house of brands, even though we did not propose specific hypotheses on these effects. Sub-branding outperforms the house of brands on returns ($\chi^2_{dfs} = 7.91, p < .01$), again with characteristically higher levels of systematic risk ($\chi^2_{dfs} = 10.93, p < .01$) and idiosyncratic risk ($\chi^2_{dfs} = 47.78, p < .01$).

Lastly, we conclude that the hybrid branding strategy consisting of a mix of the different portfolio strategies, much like a financial portfolio in which risks are diversified across different investment elements, is associated with lower returns. In fact, the hybrid portfolio strategy has the lowest returns of the different brand strategies in consideration (-.754, $p < .01$), all else being equal, as seen from the intercept in Table 3. Interestingly, the hybrid is also associated with higher levels of both systematic risk and idiosyncratic risk (1.457, $p < .01$ and 9.479, $p < .01$, respectively), all else being equal. Contrary to hypotheses H7, H8a and H8b, the hybrid portfolio strategy is in fact the least preferred branding strategy option from the perspective of both returns as well as the risk. Investors therefore seem to under-appreciate the diversification benefits afforded through this portfolio option and over-weight the risks associated with linking entities through a corporate brand.

Turning to control variables, results suggest that increasing advertising expenditure enhances stock returns (3.183, $p < .01$), lowers systematic risk (-1.698, $p < .01$) and increases idiosyncratic risk (7.491, $p < .01$). These outcomes are comparable to the findings of Fornell et al. (2006) regarding the relationship among customer satisfaction, risk, and return. Our finding on advertising generalizes Osinga et al.’s (forthcoming) finding that pharmaceutical direct-to-consumer-advertising increases stock returns, decreases systematic risk, and increases idiosyncratic risk, by expanding the result to industry settings beyond the pharmaceutical sector. We also find that higher operating margins are associated with higher returns (2.323, $p < .01$). Furthermore, higher operating margins are associated with lower levels of both systematic risk (-1.347, $p < .01$) and idiosyncratic risk (-9.850, $p < .01$). These findings on operating margins are consistent with the extensive accounting and finance literatures (Kothari 2001) that have documented the information
content of revenues and earnings measures, with the size of the returns estimate being similar to those reported previously, for example, with Srinivasan et al. (2009) who report a coefficient of 2.5. When an unanticipated change in firm results occurs, investors view this as containing information not only about changes in current-term results but about future-term prospects as well. This information induces stock market participants to update expectations about the firm’s discounted future cash flows and revise stock price accordingly.

The findings in Table 3 also suggest that an increase in the number of brands that a firm maintains in its portfolio is associated with lower levels of systematic and idiosyncratic risk, with significant but small effect sizes (-0.0006 and \( p < .05 \); -0.005 and \( p < .01 \), respectively). The lower levels of both components of risk for firms offering multiple brands imply that investors indeed value marketing synergies across multiple brands and the ability of such firms to spread demand-side risk across multiple brands (Srivastava, Shervani and Fahey 1998). We support Morgan and Rego’s (2009) conclusion that the number of brands in a portfolio matters, but show that brand portfolio strategy affects risk/return profiles over and above the number of brands.

Our results on sector effects indicate that firms operating in a large number of segments have higher abnormal returns (0.024, \( p < .05 \)), lower systematic risk (-0.009, \( p < .05 \)), and lower idiosyncratic risk (-0.157, \( p < .01 \)). These findings suggest that investors also appreciate the ability of the firms to diversify by spreading risks across customer groups in multiple segments (ibid). Such realized benefits of diversification from segment effects validate the findings of Baca, Garbe, and Weiss (2000) in major equity markets.

The industry-specific effects captured via the sector dummy variables in Table 3 also explain variations in shareholder value and risk consistent with previous literature (Eng and Keh 2007; Stelianoros and Thomas 2006; Short et al. 2007). However, our findings encourage reconsideration of the assumed dominance of sector effects in driving risk/return results: we find risk/return differences for brand portfolio strategies after controlling for sector effects.

Finally, our findings in Table 3 suggest that Business-to-Business (B2B) firms have higher abnormal returns (0.649, \( p < .05 \)) and higher systematic risk (0.196, \( p < .05 \)) relative to other firms. This finding is consistent with the reality that B2B firms are more likely to rely on fewer but larger customers for their revenues than B2C firms, resulting in higher returns but also higher levels of risk. Rao et al. (2004) suggest a confound between brand portfolio strategy and the firm’s status as a B2B or B2C player. Our sample suggests, as does that of Rao et al. (2004), that B2B firms are more likely to pursue Branded House strategies. However, our sample diversity allows a significant number of B2C firms in the Branded House strategy such that we can tease out these two effects. We show that the results of the Branded House strategy are not constrained to B2B firms only; the Branded House risk/return profile holds when controlling for B2B vs. B2C firms. In fact, all results hold above and beyond the effects of B2B vs. B2C firms. Our empirical findings provide strong support for our hypotheses, as shown in Table 4.
<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₁  The branded house strategy is associated with higher abnormal returns</td>
<td>✔</td>
</tr>
<tr>
<td>than the house of brands strategy.</td>
<td></td>
</tr>
<tr>
<td>H₂a The branded house strategy is associated with higher levels of</td>
<td>✔✔</td>
</tr>
<tr>
<td>systematic risk than the house of brands strategy.</td>
<td></td>
</tr>
<tr>
<td>H₂b The branded house strategy is associated with higher levels of</td>
<td>✔✔</td>
</tr>
<tr>
<td>idiosyncratic risk than the house of brands strategy.</td>
<td></td>
</tr>
<tr>
<td>H₃  The sub-brand strategy is associated with higher abnormal returns than</td>
<td>✔✔</td>
</tr>
<tr>
<td>a pure branded house strategy.</td>
<td></td>
</tr>
<tr>
<td>H₄a The sub-brand strategy is associated with higher levels of systematic</td>
<td>✔</td>
</tr>
<tr>
<td>risk than a pure branded house strategy.</td>
<td></td>
</tr>
<tr>
<td>H₄b The sub-brand strategy is associated with higher levels of idiosyncratic</td>
<td>✔✔</td>
</tr>
<tr>
<td>risk than a pure branded house strategy.</td>
<td></td>
</tr>
<tr>
<td>H₅  Endorsed branding is associated with lower abnormal returns than sub-</td>
<td>✔✔</td>
</tr>
<tr>
<td>branding.</td>
<td></td>
</tr>
<tr>
<td>H₆a Endorsed branding is associated with lower levels of systematic risk</td>
<td>✔✔</td>
</tr>
<tr>
<td>than sub-branding.</td>
<td></td>
</tr>
<tr>
<td>H₆b Endorsed branding is associated with lower levels of idiosyncratic risk</td>
<td>✔✔</td>
</tr>
<tr>
<td>than sub-branding.</td>
<td></td>
</tr>
<tr>
<td>H₇  The hybrid strategy generates the highest abnormal returns among all</td>
<td>✔</td>
</tr>
<tr>
<td>portfolio strategy options.</td>
<td></td>
</tr>
<tr>
<td>H₈a The hybrid strategy generates the lowest levels of systematic risk</td>
<td>✔</td>
</tr>
<tr>
<td>among all portfolio strategy options.</td>
<td></td>
</tr>
<tr>
<td>H₈b The hybrid strategy generates the lowest levels of systematic risk</td>
<td>✔</td>
</tr>
<tr>
<td>among all portfolio strategy options.</td>
<td></td>
</tr>
</tbody>
</table>

✔ ✔ - statistically supported

✔ - directionally supported
**Test of Endogeneity**

Our goal was to investigate whether various brand portfolio strategies have a different impact on the outlook on cash flows and thus affect stock returns and risks beyond the known impact of other control variables, such as operating margin. Potential endogeneity arguments could be raised with respect to our model specification. Drawing upon empirical research in this area, we use four instruments to assess endogeneity. Our approach builds from the observation that a firm’s level of marketing spending and firm characteristics are related to its branding strategy (Bahadir, Bharadwaj, and Srivastava 2008; Krasnikov, Mishra, and Orozco 2009; Rao et al. 2004). We use revenues, total assets, selling and administrative expenses, and the firm’s age as instruments and include all the other variables in the test equation. The Hausman test fails to reject the hypothesis of no statistical difference between estimators of exogenous model and estimators of endogenous model ($\chi^2_{df=13} = 20.28, p > .95$). Overall, we conclude that endogeneity does not present a serious problem, indicating that our findings are robust to this issue.

**Discussion and Implications**

In response to recent calls to explore the linkage between marketing strategy and shareholder value (Hanssens et al. 2009), this paper leveraged a sample of 306 firms and eleven years of data to explore the impact of brand portfolio strategy on firm valuation and risk. We extend Rao et al.’s initial (2004) investigation by adding critical but as yet ignored risk components to our models, thereby framing brand strategy decisions more formally in risk management terms. Our research also contributes to branding theory more generally by refining the conceptualization and operationalization of portfolio options along the branded house-house of brands continuum to consider an expanded five-category model of strategy effects.

Interestingly, Rao et al.’s (2004) finding regarding outperformance of the branded house strategy is not statistically supported in the present research. Sub-branding outperforms all other portfolio strategies: by leveraging a highly visible corporate brand asset while also promoting a second brand, firms generate the highest returns, albeit at increased risk. Our nuanced five-category operationalization clarifies that Rao et al.’s effects are likely driven by the sub-branding variant within the branded house strategy rather than by the pure branded house itself. Sub-branding also significantly outperforms endorsed branding, which attempts to provide many of the same benefits as sub-branding (i.e., stretch across products and markets, address conflicting strategy needs, conserve brand-building resources, protect the corporate brand from overstretch) but emphasizes a more distanced connection between the corporate and individual brand. This suggests that investors weigh the supply-side efficiencies offered in unified branding more heavily than the demand-side advantages that accrue from segmenting and targeting opportunities afforded by multiple portfolio brands. This finding calls into question popular recommendations for controlled but distanced corporate brand connections such as “Dewalt by Black & Decker” or “Fairfield by Marriott” to facilitate the launch of new brands.

In terms of improving the firm’s financial risk profile, we find outperformance of the house of brands strategy among all portfolio strategy options in terms of both idiosyncratic and systematic risks. The branded house strategy generates significantly higher idiosyncratic and systematic risks than the house of brands, offering empirical support for managerial “gut level” theories that caution against unifying branded offerings under one corporate umbrella (Aaker 2004a, b). Counter to Rao et al. (2004), who previously concluded that “the investor community might under-appreciate that a multitude of brands (i.e., a HOB strategy) distributes risks” (p. 139), our finding suggests that the investor community appreciates that the house of brands strategy effectively distributes risks among portfolio brands.

Of particular interest, our findings raise questions about the hybrid/mixed strategy, which finance portfolio theory would suggest offers the “best of all worlds” in balancing returns and diversifying risks. Counter to expectations, the hybrid/mixed strategy consisting of a composite of two or more portfolio approaches emerges as the “worst of all worlds” with the lowest levels of returns of all strategies and the highest levels of risk. Investors seem to under-appreciate the diversification benefits afforded through the hybrid option and overweight the risks associated with linking entities through a corporate brand. This result is particularly troubling in that most firms are evolving toward hybrid structures (Rajagopal and Sanchez 2004); the hybrid stands in fact as the most common strategy in our current database. A closer look at the
companies coded as adopting the hybrid strategy reveals a significant role for mergers and acquisitions: hybrid is more than likely an ad-hoc strategic manifestation rather than a pro-active strategic branding choice. Investors possibly respond to the serendipitous nature of this strategy, resulting in expectations for lower returns and higher risks. That the stock portfolio analog model is not operative here suggests that mixing branding strategies in a portfolio is inherently more complicated than mixing financial assets and stocks to balance risks.

Our findings lead us to question whether there exists an ideal brand portfolio strategy in terms of generating high returns while controlling risk. We compared strong versus weak brands within the sub-branding strategy using Interbrand rankings in line with Madden et al. (2006) and find that strong corporate brands yield higher returns and lower risks than weak brands: returns = 0.118, systematic risk = -0.682, idiosyncratic risk = -1.193; p < 0.01. This suggests that brand managers are well-served by investing in corporate brand assets as a way to manage risk while maximizing returns.

Finally, our findings on risk suggest that brand portfolio strategy decisions either increase or decrease both systematic risk and idiosyncratic risk. This is in contrast to other marketing strategies, such as CSR and advertising (e.g., Luo and Bhattacharya 2009; Osinga et al. forthcoming), which differentially affect these two components of risk. This highlights the significance of brand portfolio strategy in managing a firm’s total risk but also underscores the limited degrees-of-freedom afforded by these strategies from a risk management perspective.

**Limitations and Future Research Directions**

Although our results present compelling evidence of the importance of brand portfolio strategy to the firms’ market value, our research suffers from limitations that warrant consideration in future research. First, we studied, as did Rao et al. (2004), manifest branding strategies as revealed through customer-facing product identification cues and brand presentations on packages, store shelves, company communications, and corporate websites. However, brand strategies as received by consumers may differ from this managerial intent. For example, while we classified 3M as endorsed branding, consumers may refer primarily to Scotch tape, Post-it notes, etc. and ignore the corporate brand association the company seeks to claim. Future research that clarifies manifest and received portfolio strategies would be useful in understanding brand portfolio effects.

Second, our coding exercise and post-hoc analysis makes salient the serendipitous quality of many revealed brand portfolio strategies. Oftentimes companies shifted from a branded house strategy to a hybrid brand strategy upon acquiring a new brand or corporate entity, with no evidence of a deliberate and conscious strategic shift. This leads us to question the degree to which companies pro-actively manage their brand portfolio strategies as risk control mechanisms versus letting portfolio strategies be dictated as outcomes of other choices driving corporate growth. That the majority of strategies in our sample were classified as hybrid leads us to wonder about the potential ad-hoc quality of a large percentage of manifest strategies. If brand portfolio strategy is purely reactive to higher-level corporate growth goals, marketing managers lose a powerful lever for the management of risk through brand portfolio design. Aaker (2004a) claimed that for most firms, the strategic management of the brand portfolio is deficient or non-existent compared to the more operational management of individual brands. The brand architecture of an organization is, in large measure, a legacy of past management decisions, the firm’s history creating “brand baggage” and brand inertia along the way (Rajagopal and Sanchez 2004). Conversely, brand strategy may be strategically used to signal the extent of organizational change in post-mergers (Dinner et al. 2010). Clearly, this issue needs to be clarified if marketing is to reach its potential in the firm.

Lastly, our research highlights the difficulty of classifying a company’s brand portfolio strategy based on marketplace data and clues. Our coding exercise was protracted, time intensive, and complicated. An analyst seeking to qualify the risks associated with a firm’s portfolio strategy may not readily conduct such analyses in the normal course of daily operations, yet such information is critical when evaluating firm risk.

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4 To conduct this comparison, we estimated equations 2a, 2b and 2c for the 30 firms in our sample with sub-branding strategies. These equations included a dummy variable for strong vs. weak brands following Madden et al. 2006.
Moreover, our coding exercise reveals that there exists little information regarding brand portfolio strategy in company annual reports. In fact, we came across only two company examples that provided clear and unambiguous information about the firm’s portfolio strategy: The Gap and Coca-Cola. Our research sounds a call for a more transparency in reporting the brand portfolio strategies pursued by firms.
References


Fournier, Susan (2004), “Martha Stewart and the ImClone Crisis,” Case Study 1-0083 at Tuck School of Business at Dartmouth.

Franzen, Giep (2009), Brand Portfolio and Brand Architecture Strategies. Amsterdam: Stichting Wetenschappelijk Onderzoek Commerciële Communicatie, SWOCC.


## APPENDIX

### Definitions, Measures, and Literature Sources for Dependent and Control Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Source</th>
<th>Prior Literature Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal returns ($\alpha_i$)</td>
<td>$R_{it} - R_{if,t} = \alpha_i + \beta_i (R_{mt} - R_{if,t}) + \varepsilon_i SMB_t + \rho_i HML_t + \mu_i UMD_t + \epsilon_i$</td>
<td>CRSP; Kenneth French’s website</td>
<td>Carhart, M. M. (1997); Fama, E. F. and K. R. French (1993)</td>
</tr>
<tr>
<td>Systematic risk ($\beta_i$)</td>
<td>$\mu_i UMD_t + \epsilon_i$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Idiosyncratic risk ($\sigma_{\epsilon i}$)</td>
<td>$\epsilon_i \sim N(0,\sigma_{\epsilon i})$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advertising expenditures</td>
<td>Measured as the ratio of advertising expenditures to total assets.</td>
<td>COMPUSTAT</td>
<td>Srinivasan et al. (2009); Osinga et al. (forthcoming)</td>
</tr>
<tr>
<td></td>
<td>$1 \times \left[ \frac{\text{Ads}<em>{i,t}}{\text{AT}</em>{i,t}} + \frac{\text{Ads}<em>{i,t+1}}{\text{AT}</em>{i,t+1}} + \frac{\text{Ads}<em>{i,t+2}}{\text{AT}</em>{i,t+2}} \right]$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>where $t = 1~9$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating margin</td>
<td>Measured as the ratio of net income before depreciation to sales.</td>
<td>COMPUSTAT</td>
<td>Ferreria and Laux (2007)</td>
</tr>
<tr>
<td></td>
<td>$1 \times \left[ \frac{\text{NI}<em>{i,t}}{\text{Sales}</em>{i,t}} + \frac{\text{NI}<em>{i,t+1}}{\text{Sales}</em>{i,t+1}} + \frac{\text{NI}<em>{i,t+2}}{\text{Sales}</em>{i,t+2}} \right]$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>where $t = 1~9$</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B2B/B2C</strong></td>
<td>Two dummy variables indicate whether the company is in business-to-business market (1,0), mixed (0,0), or business-to-consumer market (0,1).</td>
<td>Company website</td>
<td>Kumar and Shah (2009)</td>
</tr>
<tr>
<td><strong>Number of segments</strong></td>
<td>Measured as the number of segments in which a firm markets its brands.</td>
<td>NAICS</td>
<td>Morgan and Rego (2009)</td>
</tr>
<tr>
<td><strong>Sector dummies</strong></td>
<td>Four dummy variables indicate whether the company is in manufacturing (1,0,0,0), retail (0,1,0,0), information (0,0,1,0) or finance &amp; insurance (0,0,0,1).</td>
<td>NAICS</td>
<td>Nijssen et al. (2003)</td>
</tr>
<tr>
<td><strong>Number of brands</strong></td>
<td>Measured as the number of brands in a given company’s portfolio.</td>
<td>Company annual reports and website; 10-K; Hoover’s</td>
<td>Morgan and Rego (2009)</td>
</tr>
</tbody>
</table>